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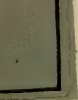
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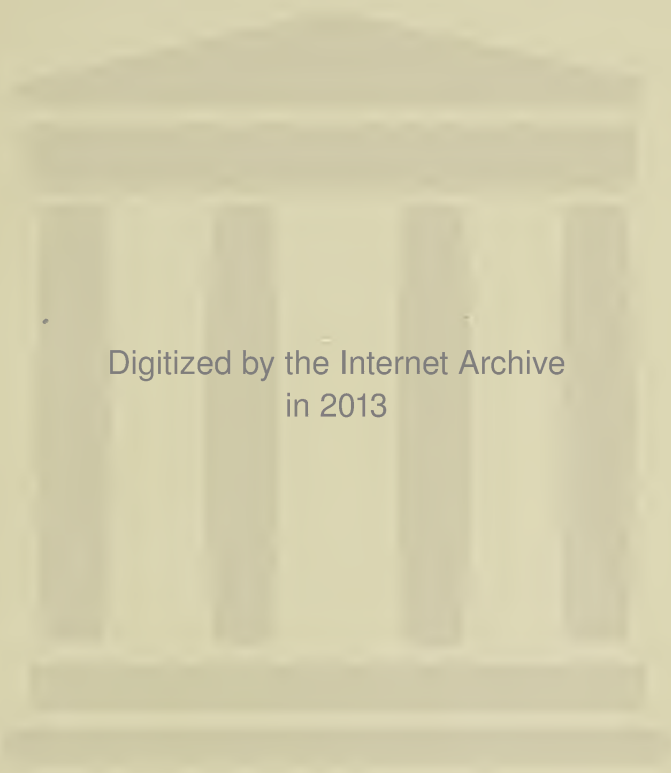
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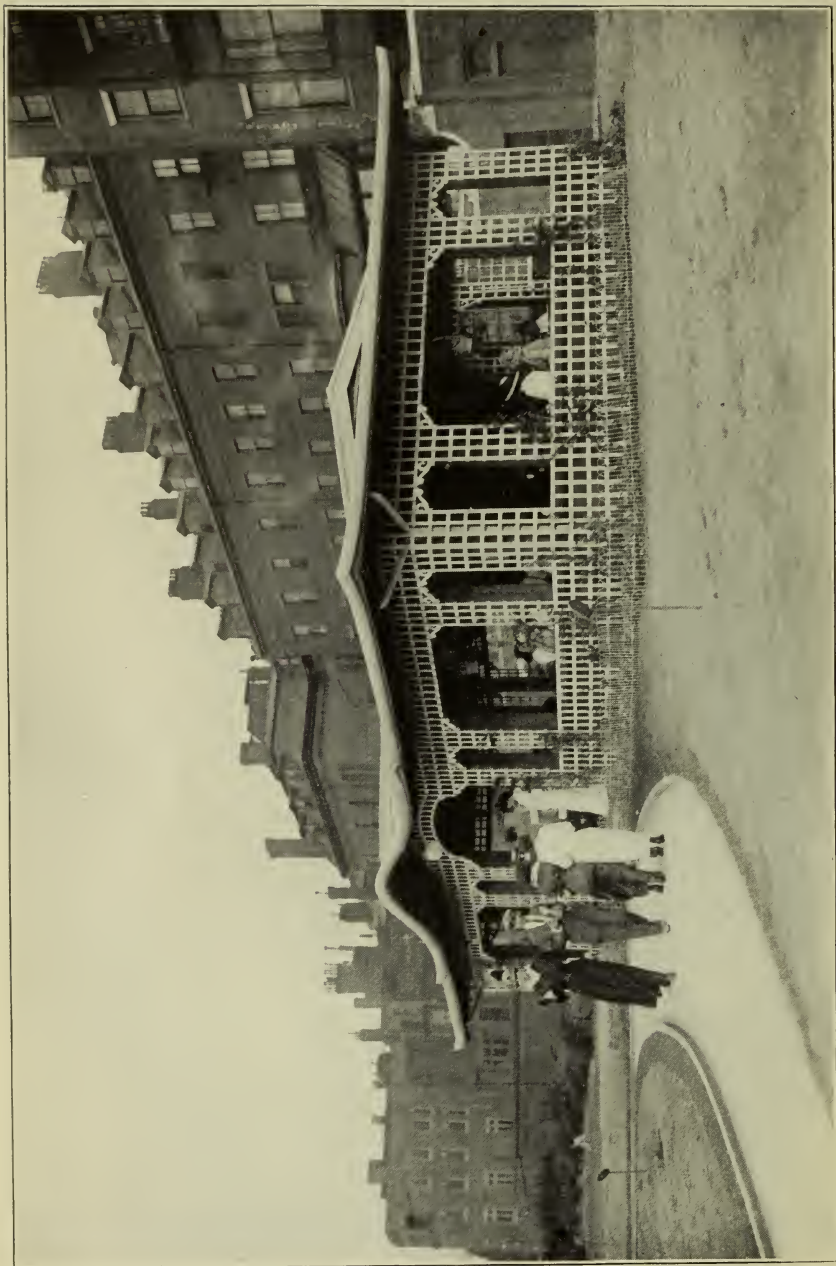
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CHARLES RIVER BASIN. — Refreshment Shelter.

REPORT

OF THE

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BOARD OF METROPOLITAN PARK COMMISSIONERS.

DECEMBER, 1913.



BOSTON:
WRIGHT & POTTER PRINTING CO., STATE PRINTERS,
32 DERNE STREET.

1914.

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The Commonwealth of Massachusetts.

REPORT.

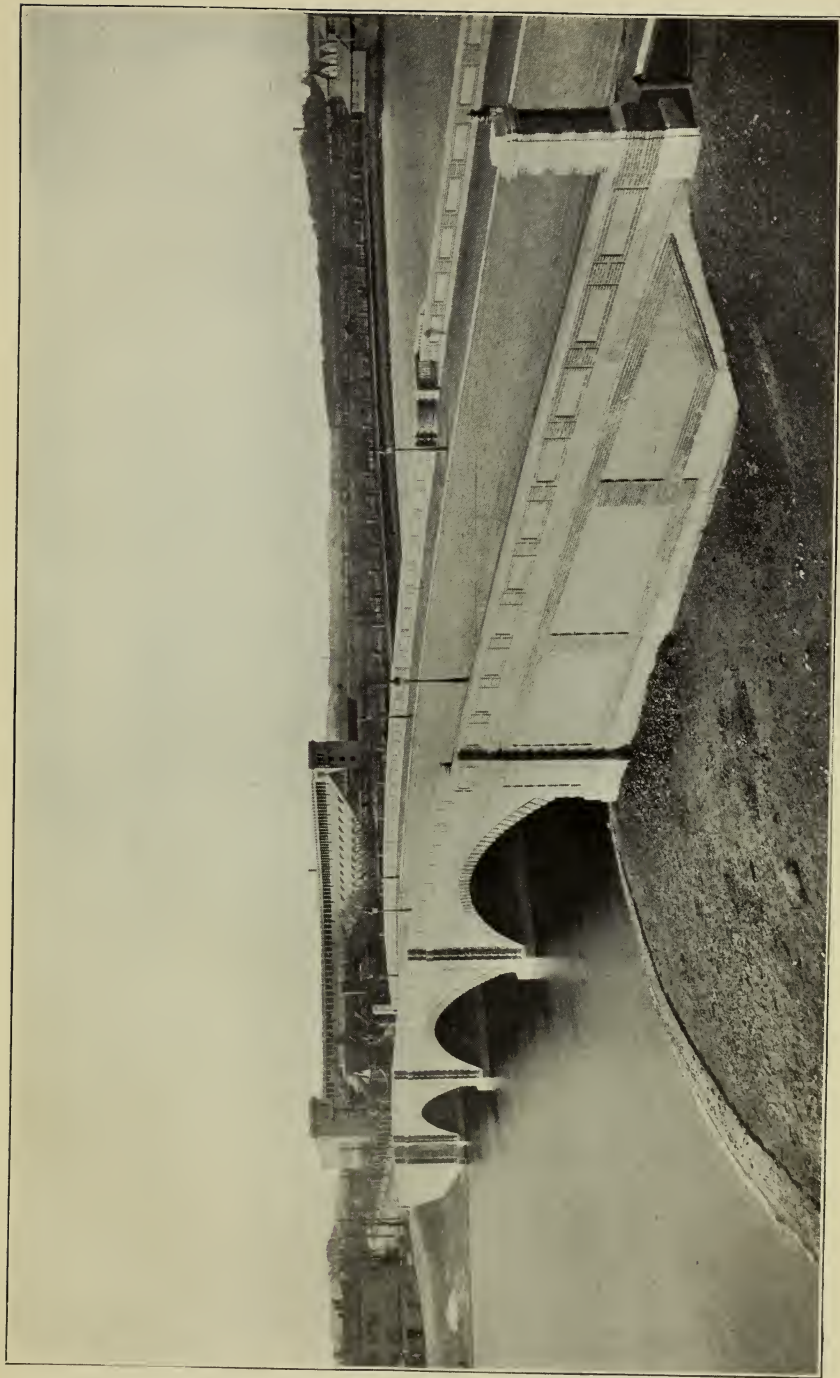
The Metropolitan Park Commission presents herewith its twenty-first annual report.

Two accomplishments of more than usual importance mark the work of the Board for the past year. They are the substantial completion of the Anderson Memorial Bridge, and the beginning of work under the appropriation of 1912 for extension of parkway acquirements and construction. The preliminary facts relating to both these pieces of work were stated in the report of the Board for 1912, and it remains only to state what has been accomplished during the past year.

The Anderson Memorial Bridge replaces the inadequate, old wooden drawbridge which for many years had marked the former condition of the banks of Charles River. The new bridge was made possible by the gift of Hon. Larz Anderson as a memorial to his father, a gallant general of the army of the United States, Nicholas Longworth Anderson, renowned for his part in the Civil War, and by legislation which provided that the bridge be built, without a draw, by this Board, that the Commonwealth assume damages, if any, for interference with navigation, and that the cost of changing the approaching highways, Boylston Street on the Cambridge side, and North Harvard Street on the Boston side, be advanced by the Commonwealth and repaid by the several municipalities, and that upon completion of the bridge and its approaches it should be returned to the municipalities and maintained by them as a highway bridge. The contract for the bridge was made in November, 1912, and was so far completed that the bridge was open for travel in the autumn of 1913, when its usefulness was well demonstrated by the comfort and rapidity with which the crowds attending

the greater football games at the Harvard Stadium were accommodated. Great credit is due to the contracting firm, Holbrook, Cabot & Rollins Corporation, and to the engineering force of this Board, for the energy and skill with which this result was accomplished. Only a few details of incidental construction, the public service pipes, the pavements and permanent light posts remain to be added in the spring. The beauty and strength of the bridge is indicated by the illustrations which accompany this report. In construction and form the bridge is of reinforced concrete with brick trimmings, to conform to the dominating architecture of buildings and fences in the neighborhood. It is the same width as the approaching highways, and has a central arch with span of 76 feet, 8 inches, and clearance above the water of 16 feet, 6 inches, and two side arches of 65 feet, 4 inches span, and clearance of 15 feet, 4 inches above the water. The cost of the entire work will be within the original estimates of \$200,000, and \$30,000 for the changes in each approaching highway.

By chapter 699 of the year 1912 authority was given this Board to expend the amount of \$200,000 in each of the five ensuing years, beginning with 1913, for the projects of parkway extension set forth in the act, to the extent possible within the amount specified as available for acquirements or construction of each of the projects specified in the act. These projects were ones which had been studied and reported on in general form by direction of the Legislature in previous years, and had all been deemed advisable and consistent with completeness of the parkway system. The Board feared, however, and so stated in its report last year, that some embarrassment might be found in the limitations imposed by the act, but is very glad to say that while this apprehension has been somewhat justified by the experience of the year, yet, on the whole, the degree of success in adjusting expenditures has been such as to permit a good beginning. Results already attained promise a very satisfactory accomplishment in relation to all the projects. This was undoubtedly helped by the general hearing given to all interested in the various projects which preceded the assignment of the funds, and made it evident to all that all the projects could not be entered upon immediately.



CHARLES RIVER BASIN. — The Anderson Memorial Bridge.

After careful consideration, based upon a study of all the work to be done, the Board decided to assign the funds available for the year 1913 for the provision of land and construction of the Woburn Parkway along Horn Pond; for the preparation of plans for acquiring the land for the Old Colony Parkway from Columbia Road to Neponset River in Boston, and in the following year from Neponset River to the Quincy Shore Driveway; for construction of Mystic River Driveway in extension from Cradock Bridge to Mystic Avenue, in Medford, as part of an extension all the way to Middlesex Fells and Revere Beach parkways, near Wellington Bridge, when additional funds should be provided; for land for Dedham Parkway from Stony Brook Reservation roads to Dedham, near Boyden Square; and for land for Hammond Pond Parkway from Beacon Street, Newton, to Hammond Street in Brookline. This assignment was made in expectation that in the year 1914 assignment would also be made to provide for construction of the extension of Fresh Pond Parkway to connect with the roads in the Fresh Pond water reservations; for acquirement of lands for a driveway along Lake Quannapowitt in Wakefield; for work at Vose's Grove; for acquirements of land for extension of the Winthrop Parkway; for construction of the westerly branch of Fellsway East, around Fellsmere Pond; and the balance of the money available in 1914, as additions to the assignments of 1913, for the Hammond Pond and Old Colony Parkway projects.

By the active interest of a Woburn citizens' committee, the land necessary for the entire length of the Woburn Parkway was secured by options, which made the land as a whole practically a gift; and construction plans being completed, a contract for construction was awarded at a price which made it evident that the entire project would be accomplished within the amount authorized. Immediate surveys were begun for the Old Colony Parkway, but the length and complexity of details attending the work have prevented completion of the surveys during the year 1913, so that it is not expected that the surveys will be completed, and the acquirement of land made, until early in 1914. For Hammond Pond Parkway much careful study was required in order that the cost of the land advisable for the parkway, and of the incidental lands necessary to protect its

beauty and usefulness, might be kept within the amount specified in the act providing for the appropriation. A citizens' committee interested themselves in this project, and acquired options covering most of the desired lands within the limits of the appropriation and on favorable terms. It was possible, therefore, to acquire the lands which could not be covered by long-time options within the amount which the Board felt could be assigned to this project in 1913, and to be assured that the remaining lands could be acquired in subsequent years within the limits of the entire amount allowed by the act. For Dedham Parkway, acquirement of the necessary land has been assured by options obtained by a citizens' committee, at reasonable prices, which will bring the total cost within the limits stated in the Acts of 1912. Surveys are in progress, and all but a small portion of the land will be acquired early in 1914.

Negotiations were begun early in 1913 with the city of Medford and its Park Board looking to the transfer to the care and control of this Board of the lands along Mystic River necessary for the ultimate extension of the Mystic River Driveways to Middlesex Fells Parkway and connection with Revere Beach Parkway, as contemplated by correspondence between this Board and the Medford Park Commission in 1898, and for the immediate construction of the portion of this parkway extension from Cradock Bridge to Mystic Avenue, as authorized by the Acts of 1912. Under the plan agreed upon in 1898, this Board acquired the land from Mystic Valley Parkway, at High Street in the city of Medford, to lands already in the possession of the city of Medford at a point just below Cradock Bridge, and completed construction of a driveway, with bridges over the river and a lock and widening of Cradock Bridge, and a rollway extending to the lands of the city of Medford, while the Medford Park Commission acquired the lands below the lands already in the possession of the city of Medford along the river as far as Middlesex Fells Parkway, and has held them since that time in expectation of appropriations to enable this Board to extend its construction. The negotiations of the past year have been somewhat protracted by necessity for amendments of the lines suggested in the original plan, and by the desire of the city of Medford to be assured that the transfer

of the lands will not interfere with the possibility of improvements in Mystic River which will facilitate the use of the river and access to lands beyond the park lands for commercial development. It is expected that these negotiations will soon result in the transfer of the land, and make it possible for the Board to enter upon the construction of the driveway as far as Mystic Avenue, as authorized by the Acts of 1912.

In pursuance of the direction contained in chapter 87 of the Resolves of the Legislature of 1913, this Board has made a special report upon the cost of completing Lynn Fells Parkway, from Bellevue Avenue and Green Street, in the city of Melrose, to Lynn Woods. A copy of the report is contained in the Appendix to this report.

The chairman of this Board, in accordance with the directions of chapter 100 of the Resolves of 1913, has acted as one of a special commission to investigate and report upon the condition of Spot Pond Brook in Stoneham, Melrose and Malden, and has joined in the report, a copy of which, because the subject-matter relates indirectly to Middlesex Fells, is also included in the Appendix to this report.

By order of the Legislature dated April 4, 1913, the members of this Board acted with the mayors of Boston, Cambridge and Somerville as a joint committee for the purpose of investigation and report as to whether public convenience and necessity require the taking of the necessary steps for the ultimate construction of a parkway or highway, or combination of both, from a point at or near Harvard Bridge, so called, in the city of Cambridge, through the cities of Cambridge and Somerville to a junction of Middlesex Fells Parkway in the city of Somerville. The report made by this joint committee is also included in the Appendix to this report.

Because some of these and other reports made or joined in by this Board suggest possible expenditures in addition to the large expenditures already made or authorized for the Metropolitan Parks System, it seems proper to give at this time a brief résumé of the work now accomplished and forming part of the Metropolitan Park System, with a statement of its cost and of the general attitude of the Board in regard to further expenditures for its work.

The Metropolitan Park System was begun in 1893 in pursuance of the report of a preliminary commission directed by the Legislature to report on the advisability of providing open spaces for rest and recreation in the country about Boston. The preliminary report, in brief, suggested and recommended that such spaces be acquired and made available in a systematic way, and that the acquirements be confined to those areas which, while possessing unusual natural fitness for open spaces for rest and recreation of the population of the Metropolitan area, were unlikely to be acquired as local parks because of the great expense involved and because in most cases the land was located in more than one municipality. That preliminary report suggested the areas which seemed most desirable from all considerations of scenic beauty, practical fitness and already manifested habit of the public in making use of them. The areas suggested were, in general, interior woodlands, seashore and river bank, and intervening stretches which would facilitate connection between them. The larger park areas suggested were all acquired within the first few years following the establishment of this Board, and in the first year after the establishment of the Board a special act was passed authorizing the acquirement of parkways. Since these first years, the work of the Board, aside from the very large work of caring for and developing the areas already acquired, has been that of laying out, acquiring, constructing and caring for parkway connections, to make the larger areas more accessible to the Metropolitan Parks District. Study of the problems presented has been carried on in an effort to lay out these parkways in such way as to provide not only entrances from the immediate neighborhood of the great park areas or reservations, as they have come to be called, but also approaches to the greater local parks, and, as far as practicable, attractive and convenient ways between the important centers of population of the Parks District. Prior to the work of this Board the cities and towns of the Metropolitan District with interest centering in Boston had been widely separated, and had grown up with very little other convenient ways of intercommunication than those provided in a somewhat haphazard way by local streets, and by the few great highways which had been built to meet the necessities of a

previous century and habit of life. The Metropolitan District was like an old-fashioned house left without modern conveniences in the midst of a modern population. The roadway at Revere Beach, and the parkways built in the first few years of parkway work, met the convenience of the public as well as its æsthetic approval, and there immediately resulted an insistent demand for extension of the parkways, which has repeated itself year after year. This public demand, though somewhat influenced by local pride, has been chiefly the manifestation of a desire for improved means of communication with other parts of the District, and with the parkways leading toward Boston.

It has, therefore, come to be no inconsiderable part of the work of the Board to answer the inquiries and prepare the information required by those seeking to present petitions to the Legislature for extension of the parkways. In this part of its work the effort of the Board has been to devise plans which would keep the cost down by utilizing neglected or unoccupied lands of small value, and at the same time maintain such relation to lands already well populated, and to parkways and reservations already provided, as to make each suggested parkway part of a general system to be gradually accomplished, and thereby add to the taxable value of the several municipalities, and ensure to each a return for its part in the expenditure for Metropolitan Parks and Parkways. The result has been a gradual progression toward a complete system of district parkways provided entirely in response to the spontaneous demands of the population of the District, and, except as called upon to state these facts in special reports required by the Legislature, without urging by this Board.

Full details of the present area of the reservations and parkways, and of the extent of the constructed work, are given in the reports of the Secretary and Engineer, which accompany this report. They may be summarized for convenience as follows: reservation areas, 9,427.88 acres, parkway areas, 819.92 acres, total, 10,247.80 acres; length of reservation and parkway formal roads, 54.73 miles, including 8.57 miles of highway placed in care of this Board by cities and towns; length of reservation carriage roads, 51.62 miles; seashore front, 12.07 miles; river bank frontage, 56.06 miles; sea wall, 2.81 miles;

bridges, 37; culverts, 21; dams, 7; lock-gates, sluice-gates and tide-gates, 85; street lights, 1,308; police signal system, 50¾ miles owned and 11 miles leased; buildings, 214. The main lock in Charles River Dam was opened 4,115 times for the passage of 4,343 vessels and 3,002 small boats, and the small lock was opened 2,195 times for passage of 2,795 boats. The lock at Cradock Bridge was opened for 3,424 boats to pass through and 345 other boats passed over the rollway. Wellington Bridge draw was opened 218 times; Malden River Bridge draw was opened 529 times; and Saugus River Bridge draw, 570 times. There were special events, such as regattas and swimming races, on twenty-one days at Charles River Basin between May 12 and November 12. There were 303 single concerts given at different points in the reservations during the year. There were 183,037 bathers at the Revere Beach Bath-house; 37,360 at Nahant Beach Bath-house; and 64,500 at Nantasket Beach Bath-house. There were 759 emergency cases treated in the police station emergency rooms, and 1,419 arrests or complaints presented in court by the police during the year. The travel on the parkways was greater during 1913 than in 1912. No census was taken, but a census taken at certain points in 1912 indicated on Sunday, October 13, 4,118 vehicles using Blue Hills Parkway at Mattapan Bridge; 3,227 using Middlesex Fells Parkway at Wellington Bridge; 3,194 using Revere Beach Parkway at Malden River Bridge; and 2,813 using Lynnway at Saugus River Bridge; and 1,264 using Lynn Shore Driveway. These figures indicate some of the many responsibilities of the Board and its forces, and especially indicate the great variety of activities and the constant care for public safety and convenience which must be exercised. They also in a measure indicate that the Metropolitan Park System provides not only pleasure resorts but also serves a much wider range of uses, which, being provided for by this Board, result in a saving to the several municipalities which would otherwise have to incur the expense of providing for this public service. And they certainly emphasize the fact that the work of the Board is a very practical and constant one, and not merely, as is sometimes thought and stated in public, that of providing for the pleasure of the community. The work of the Board may,

therefore, be broadly divided into two branches: first, that of the planning necessarily incident to the acquirement and construction, in the twofold direction of study and investigation, and the subsequent actual acquirements and construction authorized by appropriations; and, second, that of the ever-present work of maintenance and public service. While the Board confines itself, in the matter of extensions of acquirement and construction, to furnishing information without urging further expenditures, it is apparent that it must, from the nature of its responsibilities, urge such expenditures as seem necessary for adequate maintenance and public service.

In this latter direction there are certain matters which require statement and recommendation for expenditures amounting almost to urgent appeal.

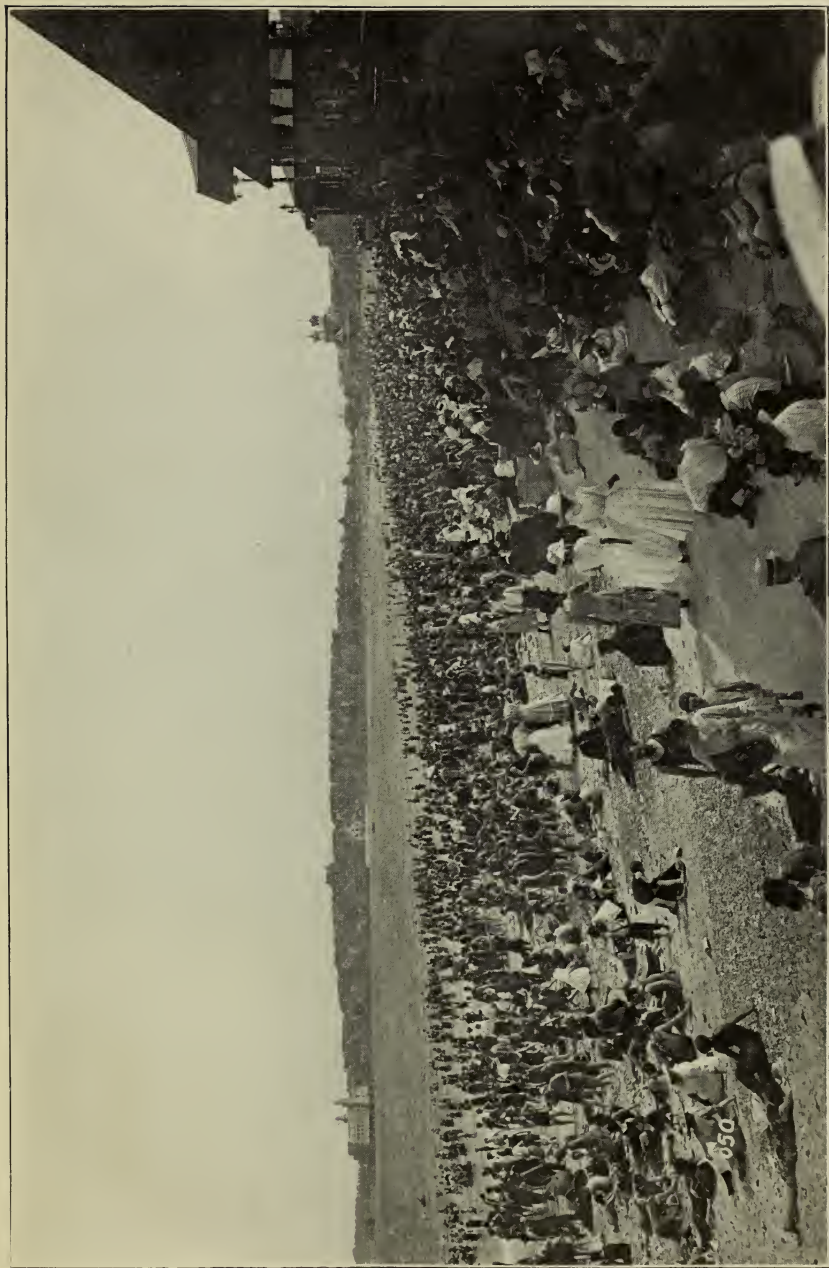
During the past two years the opportunity has presented itself, by receiving material from the Boston subways, of subgrading a width sufficient for a river driveway between the Boston and Albany tracks and Charles River, extending from Cottage Farms Bridge upstream as far as the property of the Brookline Gas Company. This completes the subgrading of an almost continuous parkway frontage along the southerly side of Charles River from Cottage Farms Bridge to Anderson Bridge, where connection is made with the Speedway Drive, which in turn makes easy connection with the driveway past the United States Arsenal and the driveway leading to Galen Street Bridge in Watertown. The acquirement of two additional small pieces of land in the city of Boston would make the public ownership complete for a continuous driveway from Commonwealth Avenue at the point where Cottage Farms Bridge enters it, and so assure, in connection with Commonwealth Avenue from the Public Garden in Boston to the Cottage Farms Bridge, a continuous parkway drive from the very heart of Boston to Watertown and Newton. The two pieces of land required for this completeness are the land now occupied by an abandoned roundhouse of the Boston & Albany Railroad, at the junction of Cottage Farms Bridge with Commonwealth Avenue, and the river frontage of the Brookline Gas Company, which, being no longer in active operation, may, by a slight rearrangement of its buildings, give up the land for the parkway with-

out giving up the opportunity of using the wharf in connection with its other property when such use is desired. While the expense of acquiring these two pieces of land would be considerable as compared with what has been the cost of the rest of the river frontage, yet it would be at the present time very much less than if they should be covered by new buildings, while the result of their acquirement would be to provide for a continuous river drive such as cannot be as well provided for in any other way, and to increase the value of all land along its entire frontage.

Granolithic sidewalks have been provided for short distances along Revere Beach and some of the parkways under special appropriations. The result, not only in convenience to the public but in saving in cost of maintenance of sidewalks and of the adjoining grass spaces, warrants the Board in recommending the continuance of an annual appropriation for this purpose. The sidewalks of the parkways are generally very inferior to those of the nearby streets of the cities and towns through which they run, and must necessarily be so as long as the Board is unable to provide anything but gravel surfacing.

The maintenance of adequate street lights along the parkways and formal roads is a serious matter. At present the Board is dependent upon the use of the Welsbach street lights, which, with the increasing cost of naphtha, are expensive and not wholly satisfactory in power. Investigation shows that it is advisable in some localities to change to electric lighting, but this cannot be done properly without the installation of conduits for underground wiring, and the Board finds difficulty in arranging for this because it is not provided with funds to enable it to put in the necessary conduits at its own expense, and is unable to make contracts for more than one year, which is too short a period of time to induce the electric light companies to incur the initial cost of putting in conduits. It is strongly recommended that the Board be provided with the funds for installing conduits, or given the power to make contracts for a longer period than one year.

As in previous years, the bath-houses at Revere, Nahant and Nantasket have proved inadequate for the service necessary to meet public convenience at times of extreme summer heat. The



REVERE BEACH RESERVATION.—Crowd at the Beach on a Hot Day.

bath-houses have always been self-sustaining, and will probably continue to be so, but the revenue derived from them is sufficient only for maintenace of equipment and for ordinary repairs. It has been possible to make slight alterations which have materially increased their capacity without asking for special appropriations, but enlargements and substantial alterations to meet changing conditions cannot be made out of present revenue. Where the Board has provided simpler conveniences, at even as low a price as 5 cents per individual for their use, in an effort to provide for more bathers, the number using the simpler conveniences has been small as compared with the number using the more expensive conveniences. Future enlargements will probably be best accomplished by rooms provided with lockers and shower baths, for which a lower price can be charged those bathers who provide their own suits. If this results in increasing the accommodations of the bath-house without increasing the laundry work, it will avoid the enlargement of the laundry, which would otherwise have to be made, and so enable the Board to continue to maintain the bath-house from its revenue, without a special appropriation for its support each year. But whether these changes are made or not, it will be necessary within the next two years to renew the boiler plant at Revere, which has been in use for sixteen years, and which, because of the reduced rating now allowed by the State inspection department, is becoming inadequate for even present necessities. When this renewal is made it ought to be accompanied by a new boiler house, placed upon land across the street, immediately in the rear of the present bath-house, together with the stables, garbage incinerator and other buildings necessary for the care and maintenance of Revere Beach and the park-ways of that division. The work of all kinds required in this division has increased so much that the limited yards and buildings adjoining the bath-houses have become overcrowded and cause a confusion which is a hindrance to the best work, and a fire risk which gives great anxiety.

At Nahant and Nantasket enlargements of the bath-houses are also needed. Changes, which will make it possible to provide lockers for use on Saturdays, Sundays and holidays, when the capacity of the bath-house is overtaxed, ought to be made

during the winter at Nahant. At Nantasket the use of the bath-house was increased one-third in the last year, and, even with every effort to supplement its accommodations, proved inadequate at certain times. This had been foreseen, but, unfortunately, requests for appropriations to provide enlargements of the bath-house, made in previous years, were not granted.

Various improvements in public facilities and in construction necessary for care and maintenance have been made during the past year. Extensive road repairs are necessary each year in order to maintain the excellence of road surface which is recognized as making the Metropolitan Parkways and formal roads as consistently excellent as any in this country, and is proved by all experience to be the truest economy. The woods roads have been well cared for and somewhat extended where administrative necessities or public convenience seem to warrant such extensions. A retaining wall, to support a portion of the sidewalk abutting on vacant property at Revere Beach, is being built under a special appropriation provided for that purpose. In the near future a low sea wall must be built to replace the bulkhead which protects the sidewalk and roadway along the northerly part of the beach; and it is very desirable that such a wall should be extended to provide a wider space along the central and southern portions of the beach, so that an increased number of seats and shelters may be provided, and that the bandstand may be moved out toward the beach, to provide more room outside the road itself for the crowds who gather about to listen to the music.

At Charles River Basin an increased number of shelters and seats have been provided on the Embankment. Enlargement of the lock house is being made to provide police headquarters. Up to the present time a part of the lock house has been used for police headquarters, much to the inconvenience of both the police force and of the force operating the lock, for whom the room was intended at the time of its construction. An attractive small shelter building, erected near Exeter Street, was fitted up and operated with a considerable degree of success, under the Women's Educational and Industrial Union as lessees, for sale of light refreshments during the summer. It was not designed to be a restaurant, and was not equipped for use during the

winter, and it was therefore closed in November. The experience of the year indicates that public convenience undoubtedly desires restaurant accommodations in this neighborhood, and probably some increase of places for the sale of soda and mineral waters and light refreshments, but the Board deems it best to leave restaurants to be provided by private enterprise on outside lands, and to confine the use of any other shelters which may be erected upon the Embankment itself to furnishing even simpler refreshments than were provided this year, and so make them even more generally serviceable to the public. The increased number of regattas, swimming races and other events drawing crowds to the Basin, and the certainty that there is likely to be an increase in boating, warrant the Board in calling attention to the fact that all of this use of so large a sheet of water as the Basin is accompanied by a risk, which, unfortunately, has already shown itself in accidents and loss of life. Many accidents have been averted and lives saved by the police patrol, which is maintained both upon land and water at this Reservation, but it seems necessary to suggest that the Board is not responsible for, and has no control over, the location and establishment of boat houses or the rental of boats, and no means of identifying boats, and that more complete regulation of boating and registration of boats using the Basin and Charles River is desirable.

A contract has been made for the building of a sea wall upon Lechmere Canal, provided for specially by the Legislature. A contract has also been made for additional dredging in the river above the Arsenal, where, at the time of construction of the Embankment, a narrow channel, which has already proved inadequate, was dredged by the Charles River Basin Commission. This work is also being done under a special appropriation.

There is an increasing demand for the establishment of playgrounds in the reservations and along the parkways. This suggests that the acquirement of the woods reservations has been limited to the acquirement of the rugged lands which include very few fields, and that extensive as the local and Metropolitan Park Systems are in acreage and variety, they undoubtedly are lacking in the level places needed to accommodate the sports and recreations which engage public activity. Wherever there

is an open field, even along the parkways, it is greatly used. During the past year very simple playground facilities have been provided in a small open field at the intersection of Revere Beach Parkway and Broadway, Chelsea, which has met great public use. Playground space has been provided for years at the Speedway in Brighton, and another one has been established this year by direction of and under special appropriation of the Legislature near Moody Street Bridge in Waltham. Land forming a part of Stony Brook Reservation has been transferred, subject to suitable restrictions for preserving the shrubbery, to the care of the park department of the city of Boston, to be maintained as a playground, in addition to the open field at another part of the Reservation which is maintained as a ball field by this Board. A picnic shelter and toilet conveniences have been located at the only open piece of ground in Middlesex Fells which is easily accessible from the electric car line, and ball fields have been laid out. If the use warrants, a small refectory will be built at this point in the effort to increase the already considerable use made of the new picnic ground.

In the woods reservations and wherever there are trees and shrubbery to be cared for, the problem of control of insect pests is a serious one, though not involving such large work as when the gypsy and brown-tail moths were almost dominant in their destructive work. In the Blue Hills there is still a serious danger from the gypsy moth, which cannot be said to be entirely under control because of the great area of the woodlands within the Reservation and of other contiguous woodland without the Reservation. These outer woodlands are remote from the population of the towns in which they are situated, and are apt to be neglected. In some cases, however, the owners have offered to pay for their care if this Board would do the work. There are cases in which the Board would be glad to do such work, and there are many places where it would be advisable to do the work merely as a matter of protection, for the purpose of preventing invasion of the Reservation woodlands, and the Board therefore suggests that authority be given it to do such work when in its judgment it is advisable. Other insect pests and the disease known as the chestnut tree blight are now of most serious menace. The elm tree beetle is so destructive that

further planting of elm trees is unwise, and it is only with great difficulty that the trees now within the reservations and parkways can be kept alive. The leopard moth is very destructive, and no way has been found of holding it under complete control. Most serious apprehension is felt, however, in regard to the chestnut tree blight, which, in spite of every effort to check it, seems to be spreading in the Blue Hills. The only protection against it is immediate destruction of trees upon which it has fastened itself, yet in other parts of the country this has proved to operate only as a temporary delay to its spread. Extensive removal of chestnut trees must be made in the Blue Hills, and as far the larger number of the trees in that Reservation are chestnut trees, it is feared that the removals may be so extensive as to seem like deforestation. Fortunately, other hard woods are rapidly coming in by nature's own process of reforestation, and for several years the Board has been planting pine seedlings at the rate of 300,000 a year, and these seem to have taken root and to be thriving.

The Metropolitan Park Police were called upon by His Excellency the Governor to assist the State and local police during a strike at Hopedale and Milford in the spring of 1913. As in the previous year at Lawrence, the squad which was sent first was changed from time to time, so as to lessen the burden upon men of absence from home. In general, it may be said that the men rendered this service in a way which earned and received the thanks of the local authorities and of all who observed them. Such calls for service outside the District are, however, a serious interference with the regular winter drills and emergency instruction, which have proved to be a necessary part of the training which has made the Metropolitan Park Police efficient. The Board seriously regrets such interference with the regular work, and ventures to express the hope that some plan will be devised which will make it unnecessary in future years to call for assistance in outside police work. In the same spirit of desire for the good of the police force, and to make its service in the care of the public in the Metropolitan Park System efficient and suited for its need, the Board deems it proper to record its emphatic opinion that legislation providing for returning to the force men who have been tried by the Board and found

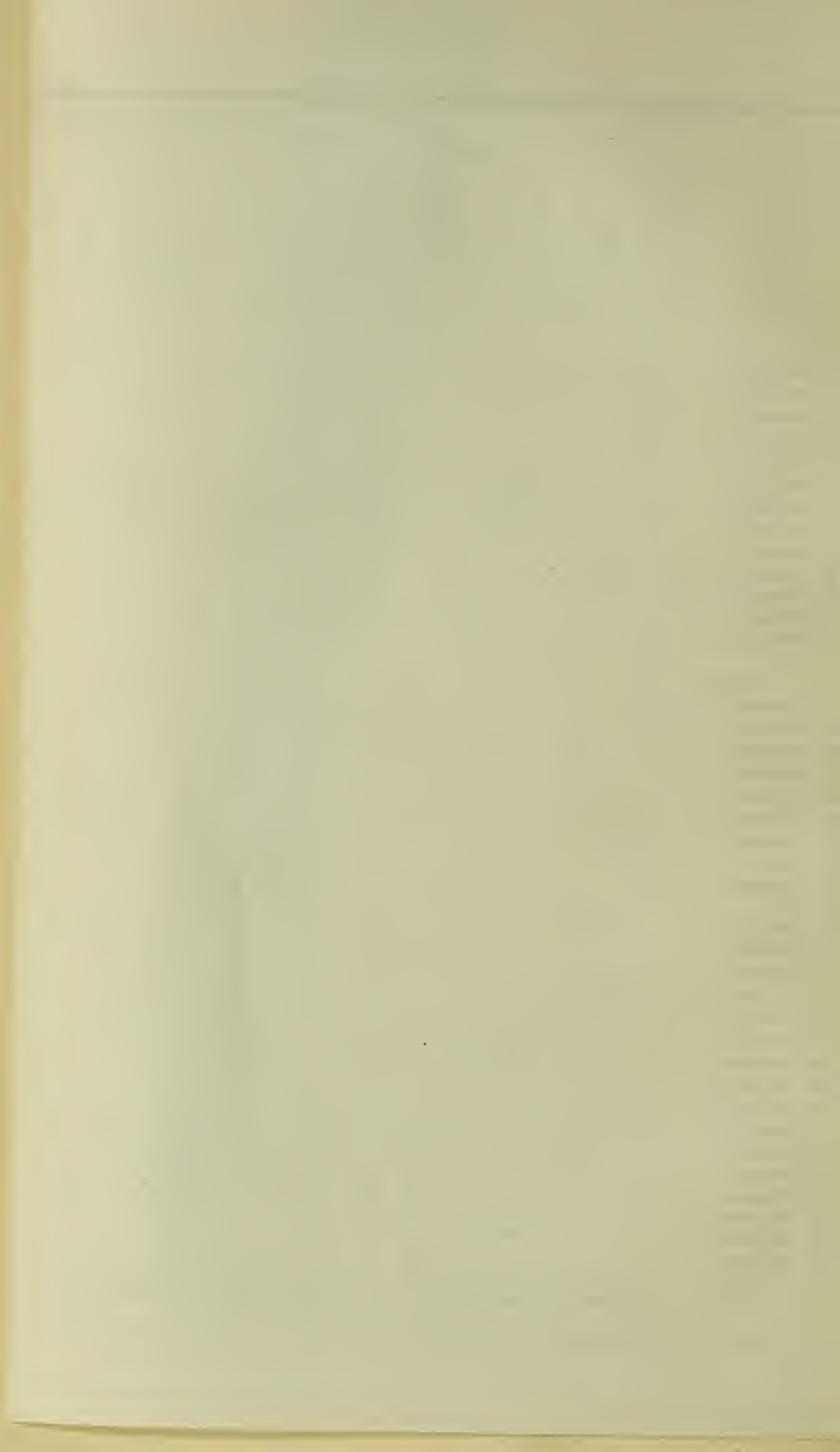
guilty of offences warranting their discharge, and legislation giving a right of review by appeal to the District Courts of the Commonwealth, is unwise. The present high standard of the force is due primarily to the care with which the men are selected, and secondly to the fairness with which they are treated in the service and are tried and judged when they commit offences against the discipline of the force. All men certified as eligible for appointment, after their certification for appointment by the Civil Service Board, are given an opportunity to appear before the entire Metropolitan Park Commission and to be examined orally as to their general fitness and purpose, and to be told just what is expected of them, and in turn to ask questions and make any statements which they may desire to make. They are then marked separately, and after all who have appeared have been heard, the ones who have received the highest marks of a majority of the Board are appointed. After they have entered the service, their promotion is based on the record of this service. If charges at any time are made against them, either by citizens or by their superior officers, these charges are heard by the Board after notice and with opportunity to be represented by counsel, and all the testimony is taken down stenographically and given fair consideration, and a decision reached by the entire Board. The chances of error are small, and all extenuating circumstances are taken into account before a finding is made. On the other hand, it seems to the Board very necessary to fair dealing and efficiency of the force in providing for public safety and protection that the decision in such cases should be made by those having a full understanding of the necessities of the public service which the police are expected to render, and that this understanding can be had only by those who are charged with responsibility for maintaining the efficiency of this public service and protection.

All of which is respectfully submitted.

WILLIAM B. DE LAS CASAS.
EDWIN U. CURTIS.
DAVID N. SKILLINGS.
ELLERTON P. WHITNEY.
EVERETT C. BENTON.

Metropolitan Park System—Dec. 1, 1913.

[illegible]



REPORT OF THE SECRETARY.

HON. WILLIAM B. DE LAS CASAS, *Chairman, Metropolitan Park Commission.*

SIR:— I submit herewith the report of the Secretary for the year ending Nov. 30, 1913.

1. ACQUIREMENT OF LANDS.

Under the provisions of chapter 699 of the Acts of the year 1912, a taking has been made of land in Woburn and Winchester for the Woburn Parkway. This taking, together with land transferred to the Commission for care and control by the city of Woburn, provides for a parkway from Pleasant Street, in Woburn, to Pond Street in Winchester. The Commission has acquired title to considerable land, and has options on other land, required for the Dedham Parkway, from Central Street, Dedham, to Stony Brook Reservation, Boston, and for Hammond Pond Parkway in Brookline and Newton, all under authority of the same act. Exchanges of lands have been effected between the city of Malden, the Commonwealth and other owners, involving no expenditure of money by the Commonwealth for land, whereby it is now possible to construct a westerly driveway of Fellsway East, near Fellsmere Pond in Malden, as authorized by said act. There are about 65 outstanding claims for land taken, or on which there are options. Only one of these is in suit. It is estimated that about \$55,000 will be required to settle these claims.

2. ADMINISTRATION.

The regular force at the general office remains substantially the same as a year ago. Owing, however, to the work of examining and acquiring titles to land, to carry out the provisions of said Acts of 1912, the Commission has, with the authority and approval of the Attorney-General, employed Paul M. Hubbard, Esq., as attorney to assist the Secretary in the examination of

titles and the preparation of the deeds and other legal instruments necessary to acquire the land needed to carry out the requirements of said act. The additional surveys and plans, required to carry out the provisions of said act, have also made it necessary to slightly increase the engineering forces. The additional expense thus incurred is charged to the funds provided by the act. A review of the work of the Engineering Department will be found in the report of the Engineer, submitted to the Board.

3. SUPERINTENDENCE.

Under this head I call your attention only to such matters as seem to me more or less distinguishable from the usual routine work of administration.

BLUE HILLS DIVISION (BLUE HILLS RESERVATION, STONY BROOK RESERVATION, NEPONSET RIVER RESERVATION, QUINCY SHORE RESERVATION, BLUE HILLS PARKWAY, NEPONSET RIVER PARKWAY AND FURNACE BROOK PARKWAY): B. J. COSTELLO, *Superintendent*.

The road along the southerly boundary of the Blue Hills Reservation, from Randolph Avenue to Houghton's Pond, has been completed. While this road was constructed primarily to enable fire and spraying apparatus to penetrate this section, it also furnishes a pleasant drive through the woods and another means of access to the pond. The gypsy and brown-tail moth situation remains about the same. While some headway has been made in reducing the areas previously infested, other new areas have become infested, and largely from sources without the Reservation. An even more serious menace than the moths, however, seems to have appeared in the chestnut tree blight. While this disease was known to exist in the Reservation nearly two years ago, it was not apparent that it was widely disseminated through the woods. This proves now to be the fact, and the ravages of the disease are becoming apparent. There is only one remedy, and that is to cut down and burn the infected trees. Inasmuch as the chestnut tree forms a large part of the wooded growth of the Reservation, the threatened injury to the Reservation is very grave. In anticipation of the ultimate loss of the chestnut trees, the practice of planting white pine seedlings to replace them has continued. To offset this prospective loss,

300,000 seedlings were planted the past year. A brick garage, capable of accommodating six motor vehicles, has been built at headquarters.

In Neponset River Reservation the marshes from Granite Avenue to Dorchester Lower Mills have been ditched to eliminate mosquitoes, the money for the purpose having been provided in a special item of maintenance. A playground has also been graded on River Street near Central Avenue, Dorchester. This playground meets a need of the children of Boston in this vicinity, and might well be taken over by the city of Boston for care and control.

MIDDLESEX FELLS DIVISION (MIDDLESEX FELLS RESERVATION, MYSTIC RIVER RESERVATION, MIDDLESEX FELLS PARKWAY, MYSTIC VALLEY PARKWAY AND LYNN FELLS PARKWAY): A. N. HABBERLEY, *Superintendent*.

Extensive repairs have been made on the interior roads in the Reservation. The main reservation roads, such as Highland Avenue, from Elm Street to the Malden Border Road, Malden Border Road, from Highland Avenue to the Summer Street entrance, and Pond Street, from the Emerson Street Border Road to the neighborhood of Woodland Road, have been resurfaced. Other sections of the main roads have been treated with oil and patched and repaired where necessary.

The gypsy and brown-tail moth situation is well in hand, and some reduction has been made in the moth estimate for the ensuing year. No great reduction can safely be made, however, in the estimated cost of suppressing insect pests, because of the constantly new infestation of moths from lands outside the Reservation, and the increase of the new tree enemies, particularly the elm leaf beetle and the leopard moth. The tent caterpillar has also been very destructive this year. These observations apply in general to forestry conditions throughout the division.

Mystic River Reservation. — An appropriation of \$5,000 was made by the Legislature of 1913 for the improvement of the banks of Mystic River, and under this quite an amount of work has been done in grading off the banks and in their vicinity. It will be necessary to increase the force of attendants at the

dam at Cradock Bridge by one assistant lock tender, to provide for all night operation of the lock and rollway, as this is a navigable stream which must be kept open for navigation at all hours. The total number of craft passing through the lock or over the rollway from Dec. 1, 1912, to Nov. 30, 1913, inclusive, was as follows: —

<i>Through Lock.</i>		<i>Over Rollway.</i>	
Power boats, ...	2,808	Canoes, ...	147
Dories, ...	588	Dories, ...	185
Rowboats, ...	11	Rowboats, ...	13
Canoes, ...	17		
Total, ...	3,424	Total, ...	345

At Wellington Bridge the number of openings of the draw for the passage of vessels during the year was as follows: —

December, ...	40	July, ...	25
January, ...	9	August, ...	24
February, ...	8	September, ...	20
March, ...	—	October, ...	16
April, ...	4	November, ...	22
May, ...	19		
June, ...	31	Total, ...	218

Middlesex Fells Parkway, including Fellsway East and West and a double roadway most of the distance, has been resurfaced where necessary or treated with some form of asphalt binder or patched and repaired.

In Mystic Valley Parkway certain resurfacing work, between Main and Bacon streets, which was planned for this year, was omitted on account of the construction of a section of the Metropolitan sewer in this locality.

REVERE BEACH DIVISION (REVERE BEACH RESERVATION, WINTHROP SHORE RESERVATION, LYNN SHORE RESERVATION, REVERE BEACH PARKWAY, WINTHROP PARKWAY, LYNNWAY AND NAHANT BEACH PARKWAY): HERBERT W. WEST, *Superintendent*.

Revere Beach Reservation. — Under a special item in the maintenance appropriations a 6-foot granolithic sidewalk has been laid from Eliot Circle to Shirley Avenue, thus making

continuous granolithic sidewalks on each side of the Reservation from Eliot Circle to Revere Street. For the sake of public comfort and convenience this sidewalk should be extended on the westerly side northerly from Revere Street, at least as far as Oak Island. Additional wooden shelters with canopy tops and wooden seats have been placed at various points on the Reservation.

The bath-house was opened June 7 and closed September 14, a total of ninety-nine days. There were 112,285 male and 70,752 female bathers, making a total of 183,037 bathers. The cash receipts were \$39,176.60. This record surpasses that of any previous year.

During the year, principally during the summer, 346 lost children were found and restored to the persons entitled to their custody; 271 persons were injured in various ways, slightly or otherwise, and cared for in the emergency hospital. There were 243 arrests or complaints made for offences committed during the year on this Reservation, and 495 throughout all the reservations and parkways included in Revere Beach Division.

The Nahant Beach Bath-house was opened June 29 and closed September 1, a period of sixty-five days. The number of male bathers was 19,270, and of female, 18,090, making a total of 37,360 bathers. The net receipts were \$7,679.35.

CHARLES RIVER DIVISION, LOWER BASIN (CHARLES RIVER BASIN):
HERBERT W. WEST, *Superintendent*.

In the spring a refreshment shelter was erected on the Embankment, between Otter and Berkeley streets. This was let for the season to the New England Kitchen, a branch of the Women's Educational and Industrial Union, for the sale of light refreshments. If the building should not prove a success as a place for this purpose, it can be wholly devoted, at little additional expense, to the purposes of a shelter alone.

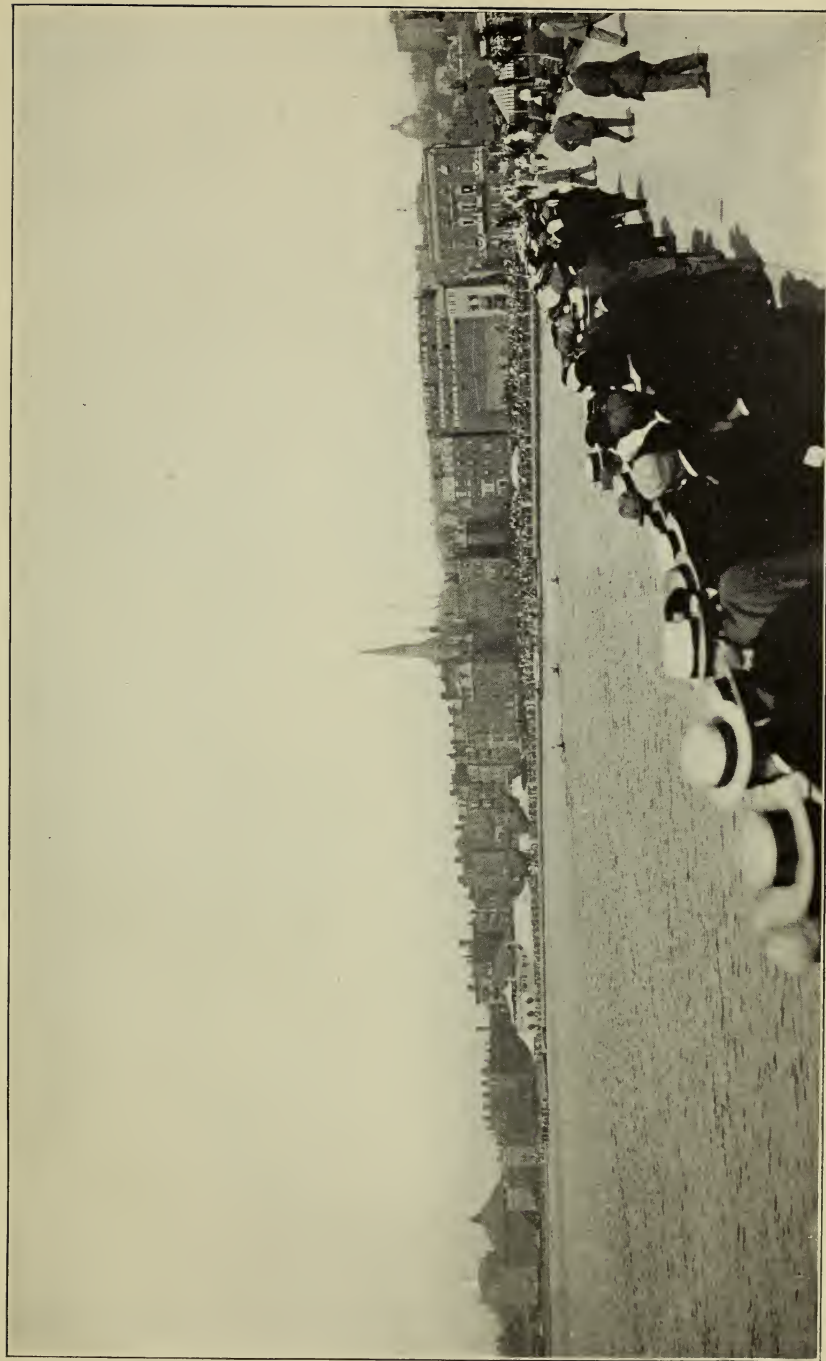
Range posts and signs have been set up on the banks of the river along the race courses between Cottage Farms Bridge and the Union Boat Club. The Basin is much used for rowing and other water sports and entertainments. The following is a list of events which have taken place thereon the past year: —

- May 12. Harvard-Princeton-Pennsylvania race.
May 13. Harvard class crew races.
May 16. Massachusetts Institute of Technology races.
May 27. School Boys' Association races.
June 3 and 5. Interscholastic Rowing Association races.
July 4. New England Amateur Rowing Association races and city of Boston swimming races.
July 12. Rowing and swimming races by sailors from United States battleships "Virginia," "Nebraska" and "North Carolina," in entertainment of sailors from the Argentine School Ship.
July 31. Annual Regatta of Union Boat Club.
August 8 and 9. Annual Regatta of National Association of Amateur Oarsmen.
August 16. City of Boston swimming races.
August 30. Swimming races under auspices of the "Boston American."
September 6. Amateur Athletic Union swimming races.
October 10. American Bankers' Association carnival with illuminations and fireworks.
October 11 and 13. Sailing canoe races for Union Boat Club trophy between teams from New York and Boston.
October 13. Annual Columbus Day regattas by New England Amateur Rowing Association and a professional single scull race.
November 5. Harvard class crew races.
November 6. Harvard 8-oar shell races.
November 11. Harvard class races, single sculls.

The policing of the Basin, particularly of the Dam, is considerable of a problem, as is shown by the fact that a total of 493 arrests or complaints were made during the year for offences committed on the Basin. Of this number, 440 were arrests for drunkenness, and were made principally on the highway on the Dam. There were also 23 dead bodies recovered from the water, and 38 persons rescued from drowning. A constant patrol of the waters of the Basin in motor boats is necessary during the time of open water, while during the period of skating it is necessary to exercise the utmost vigilance in order to confine the public to the limits of safe ice.

CHARLES RIVER UPPER DIVISION (SPEEDWAY AND RIVERSIDE SECTIONS AND ALEWIFE BROOK PARKWAY): JOHN L. GILMAN, *Superintendent*.

Speedway. — The circular track has been regraded and resurfaced with loam. The lower half of the straight-away track has been abandoned and seeded down to grass. This will some-



CHARLES RIVER BASIN.—International Boat Races.

what diminish the cost of maintenance without seriously impairing the facilities for racing. A playground, authorized by chapter 297 of the Acts of 1913, has been constructed on the southerly bank of Charles River, near Moody Street, and equipped with swings, teeter-boards, a sand box and a fountain. This playground has been largely patronized by children. Thirty-one persons were rescued from the river during the year.

NANTASKET BEACH DIVISION (NANTASKET BEACH RESERVATION) : ELMER E. BICKFORD, *Superintendent*.

The bath-house was opened June 16 and closed September 7; 64,500 bathers patronized the bath-house, of whom 34,443 were males and 30,057 females. The receipts were \$14,210.50. The increase in bathers was nearly 50 per cent. over the patronage of last year. Sixty-nine accident cases were treated in the emergency room of the bath-house. On June 29 the emergency bathing quarters, under the piazza of the bath-house, were put into commission and opened thirteen times from that date to September 1. The price for use of the facilities offered by these quarters was 5 cents per person. Nine hundred and ninety-one persons in all, *i.e.*, about 5 per cent. of the total number of persons bathing, took advantage of the cheaper facilities for bathing thus offered. One hundred and thirty-five arrests were made during the year for various offences; of this number, 100 were for drunkenness.

4. MISCELLANEOUS.

Twenty-five thousand dollars were appropriated by the Legislature this year for band concerts. With this appropriation concerts were given at Revere Beach and Nantasket Beach Reservations every afternoon and evening, except on Mondays, during the period from July 4 to September 1 (Labor Day), inclusive. At Nahant Beach concerts were given Friday afternoons and evenings, June 27, July 11, 18 and 25, August 1, 8, 15, 22 and 29 and September 5. The number and location of other concerts given were as follows:—

	Concerts.
Foot of Great Blue Hill, ...	7
Fellsmere Park, Malden, ...	5
Manchester Field, Winchester, ...	7
Broadway Park, Somerville, ...	8
Speedway, Brighton, ...	9
Charles River Road, Watertown, ...	6
Fox Island, Waltham, ...	8
Boston Embankment, ...	9
Chelsea Playground, ...	3
Ell Pond Park, Melrose, ...	2
Quincy Shore Reservation, ...	2
Furnace Brook Parkway, ...	2
Mystic Valley Parkway, ...	2
Cambridge Homes for Aged People, ...	2
Charles River Basin regattas, ...	2
Waltham Canoe Club regatta, ...	1
Total, ...	75

The total number of single concerts given was 303, and the total expenditure for the same \$23,044.61.

By chapter 87 of the Resolves of 1913, the Board was required to report as to completing the Lynn Fells Parkway from Bellevue Avenue and Green Street, in Melrose, to the Lynn Woods. A copy of this report will be found in the Appendix.

5. FINANCES.

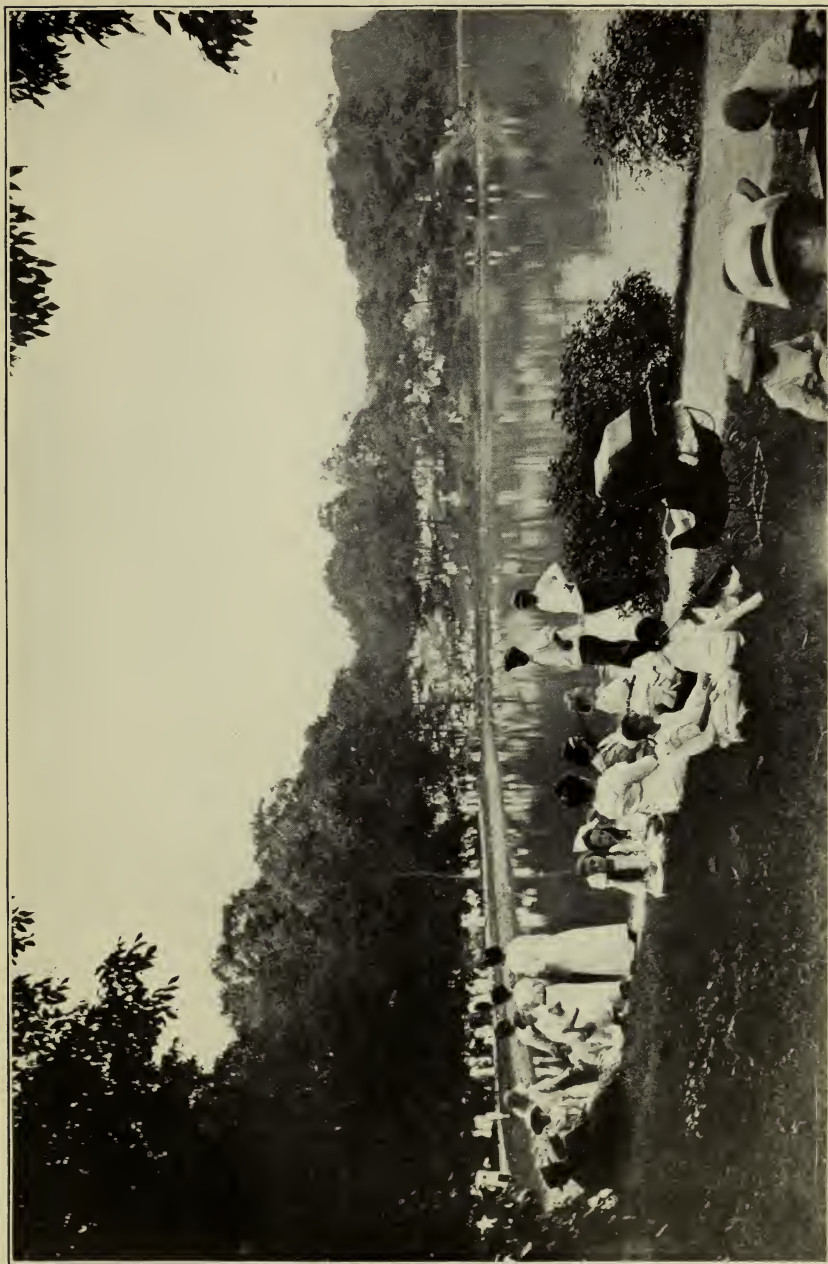
Detailed statements of the receipts and expenditures the past year will be inserted in the Appendix to the report.

Loan Appropriations.

The appropriations heretofore made in the form of loans, with accretions thereto, are as follows:—

METROPOLITAN PARKS LOAN FUND.

Original appropriation, chapter 407, Acts of 1893, .	\$1,000,000 00
First Revere Beach Act, chapter 483, Acts of 1894, .	500,000 00
Charles River Act, chapter 509, Acts of 1894, . . .	300,000 00
Second Revere Beach Act, chapter 305, Acts of 1895, .	500,000 00
General appropriation, chapter 466, Acts of 1896, .	1,000,000 00



MIDDLESEX FELS PARKWAY.—Band Concert at Fellsmere Park.

General appropriation, chapter 464, Acts of 1897, ...	\$500,000 00
General appropriation, chapter 530, Acts of 1898, ...	1,000,000 00
Revere Beach Bath-house Act, chapter 142, Acts of 1899, ...	125,000 00
General appropriation, chapter 396, Acts of 1899, ...	300,000 00
Charles River Improvement Act, chapter 465, Acts of 1900, ...	50,000 00
Fuller's Wharf Act, chapter 467, Acts of 1900, ...	30,000 00
General appropriation, chapter 445, Acts of 1901, ...	450,000 00
Mystic River Bridge Act, chapter 492, Acts of 1901, ...	200,000 00
General appropriation, chapter 290, Acts of 1903, ...	125,000 00
Newton Upper Falls Bridge Act, chapter 391, Acts of 1903, ...	40,000 00
Continuing appropriation, chapter 429, Acts of 1903, for 1903, ...	300,000 00
For 1904, ...	300,000 00
For 1905, ...	300,000 00
For 1906, ...	300,000 00
For 1907, ...	300,000 00
Nahant Beach Bath-house Act, chapter 326, Acts of 1904, ...	70,000 00
Reimbursing loan for moth expense, chapter 486, Acts of 1906, ...	50,000 00
Purification of Mystic River, Alewife Brook and adjacent water-courses, ponds and drainage areas, chapter 529, Acts of 1906, ...	100,000 00
Additional appropriation for purification of Mystic River, etc., chapter 529, Acts of 1907, ...	25,000 00
Mystic River and Winthrop Shore Act, chapter 652, Acts of 1908, ...	70,000 00
Charles River Land Act, chapter 628, Acts of 1910, ...	50,000 00
Alewife Brook Purification Act, chapter 458, Acts of 1911, ...	15,000 00
	\$8,000,000 00
To provide for interest and sinking fund requirements to 1900, chapter 311, Acts of 1897, ...	900,000 00
Total amount of loans, ...	\$8,900,000 00
Amounts received from sales of buildings, receipts from bath-house, fines, etc., ...	198,334 01
Total, ...	\$9,098,334 01

METROPOLITAN PARKS LOAN FUND, SERIES II.

Original boulevard, chapter 288, Acts of 1894, . . .	\$500,000 00
General appropriation, chapter 472, Acts of 1896, . . .	500,000 00
General appropriation, chapter 521, Acts of 1897, . . .	1,000,000 00
Saugus Bridge Act, chapter 547, Acts of 1898, . . .	100,000 00
General appropriation, chapter 428, Acts of 1899, . . .	500,000 00
Mattapan Bridge Act, chapter 443, Acts of 1900, . . .	75,000 00
Winchester Act, chapter 444, Acts of 1900, . . .	50,000 00
Revere Beach Parkway Act, chapter 445, Acts of 1900, . .	200,000 00
General appropriation, chapter 172, Acts of 1902, . . .	450,000 00
General appropriation, chapter 359, Acts of 1903, . . .	110,000 00
Continuing appropriation, chapter 419, Acts of 1903, for 1903, ...	300,000 00
For 1904, ...	300,000 00
For 1905, ...	300,000 00
For 1906, ...	300,000 00
For 1907, ...	300,000 00
Alewife Brook and Fresh Pond Parkway Act, chapter 651, Acts of 1908, ...	50,000 00
Continuing appropriation, chapter 699, Acts of 1912, for 1913, ...	200,000 00
	\$5,235,000 00
To provide for interest and sinking fund requirements to 1900, chapter 311, Acts of 1897, ...	100,000 00
Total amount of loans, ...	\$5,335,000 00
Receipts from sales, etc., ...	29,907 41
Total, ...	\$5,364,907 41

NANTASKET BEACH LOAN.

Appropriation, chapter 464, Acts of 1899, ...	\$600,000 00
Appropriation, chapter 456, Acts of 1901, ...	100,000 00
Total amount of loans, ...	\$700,000 00
Receipts from rents, etc., ...	5,881 50
Total, ...	\$705,881 50

CHARLES RIVER BASIN LOAN.

Bonds issued for 1904, ...	\$250,000 00
Bonds issued for 1905, ...	400,000 00
Bonds issued for 1906, ...	600,000 00
Bonds issued for 1907, ...	1,150,000 00
Bonds issued for 1908, ...	400,000 00
Bonds issued for 1909, ...	850,000 00
Bonds issued for 1910, ...	475,000 00
Bonds issued for 1911, ...	300,000 00
Appropriation, chapter 539, Acts of 1913, ...	40,000 00
Total amount of bonds, ...	\$4,465,000 00
Receipts added to loan, ...	9,340 75
Total, ...	\$4,474,340 75

Expenditures from Loans.

The following tables show the total amount expended in each of the foregoing loans, the total cost of each reservation and parkway to Dec. 1, 1913, and the amount charged by the Auditor's department to meet the sinking fund and interest requirements previous to Jan. 1, 1900. The item of "Miscellaneous" in these tables includes cost of construction of roads, buildings and of all other work of construction, and all other charges against these loans except those for land, general expenses, sinking fund and cost of maintenance required by law to be charged to loans up to 1897. The total charges for maintenance to 1897, general expenses and sinking fund are given separately at the end of the tables. The total amounts charged to those loans are as follows: —

METROPOLITAN PARKS LOAN FUND.

Land, ...	\$5,301,444 44
Miscellaneous, including construction of roads, buildings, etc., ...	3,278,297 26
General expense, ...	163,371 12
Maintenance to Jan. 1, 1897, sinking fund assessments to Jan. 1, 1900, and interest, ...	290,326 56
	\$9,033,439 38

METROPOLITAN PARKS LOAN FUND, SERIES II.

Land, ...	\$1,760,631 45
Miscellaneous, including construction of roads, build- ings, etc., ...	3,240,595 84
General expense, ...	107,090 19
Sinking fund assessments to Jan. 1, 1900, and one-half interest, ...	59,195 89
	\$5,167,513 37

NANTASKET BEACH LOAN.

Land, ...	\$603,329 57
Miscellaneous, including construction of buildings, etc., .	102,551 93
	\$705,881 50

The amounts expended from these loans for the fiscal year ending Nov. 30, 1913, are stated in tables on pages 64 and 65 in the financial statement.

METROPOLITAN PARKS LOAN FUND.

Blue Hills Reservation:—

Land, ...	\$363,352 29
Miscellaneous, ...	287,172 72
	\$650,525 01

Middlesex Fells Reservation:—

Land, ...	\$690,782 43
Miscellaneous, ...	287,401 81
	978,184 24

Revere Beach Reservation:—

Land, ...	\$1,162,947 67
Miscellaneous, ...	799,527 38
	1,962,475 05

Stony Brook Reservation:—

Land, ...	\$281,243 87
Miscellaneous, ...	75,811 92
	357,055 79

Beaver Brook Reservation:—

Land, ...	\$29,819 29
Miscellaneous, ...	23,937 71
	53,757 00

Hemlock Gorge Reservation:—

Land, ...	\$53,254 00	
Miscellaneous, ...	15,543 94	
		\$68,797 94

Charles River Reservation:—

Land, ...	\$1,478,772 55	
Miscellaneous, ...	306,754 55	
		1,785,527 10

Neponset River Reservation:—

Land, ...	\$233,473 04	
Miscellaneous, ...	46,418 97	
		279,892 01

Mystic River Reservation:—

Land, ...	\$242,533 21	
Miscellaneous, ...	379,322 51	
		621,855 72

Lynn Shore Reservation:—

Land, ...	\$361,199 29	
Miscellaneous, ...	243,580 01	
		604,779 30

Quincy Shore Reservation:—

Land, ...	\$73,726 26	
Miscellaneous, ...	198,159 19	
		271,885 45

Winthrop Shore Reservation:—

Land, ...	\$51,067 32	
Miscellaneous, ...	169,249 43	
		220,316 75

Hart's Hill Reservation:—

Land, ...	\$10,000 00	
Miscellaneous, ...	202 35	
		10,202 35

King's Beach Reservation:—

Land, ...	\$24,297 21	
Miscellaneous, ...	1,551 63	
		25,848 84

West Roxbury Parkway:—

Land, ...	\$244,976 01	
Miscellaneous, ...	8,313 67	
		253,289 68

Wellington Bridge:—

Miscellaneous, ...	\$185,317 42	
		185,317 42

Nahant Beach Bath-house:—

Miscellaneous, ...	\$67,794 58	
		\$67,794 58

Boylston Street Bridge:—

Miscellaneous, ...	\$45,838 57	
		45,838 57

Alewife Brook Purification:—

Miscellaneous, ...	\$136,398 90	
		136,398 90

General expense, ...		163,371 12
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\$8,743,112 82

Sinking fund requirements to 1896, ...	\$18,980 18	
Care and maintenance to July 1, 1896, ...	85,813 46	
Care and maintenance, July 1, 1896, to Jan. 1, 1897, ...	19,604 06	
Sinking fund assessment for 1897, ...	63,630 70	
Sinking fund assessment for 1898, ...	9,755 55	
Sinking fund assessment for 1899, ...	64,224 00	
Interest, ...	28,318 61	
		290,326 56

Total charged to Dec. 1, 1913, ...	\$9,033,439 38
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Balance Dec. 1, 1913, ...	64,894 63
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\$9,098,334 01

METROPOLITAN PARKS LOAN FUND, SERIES II.

Blue Hills Parkway:—

Land, ...	\$133,492 02	
Miscellaneous, ...	269,513 47	
		\$403,005 49

Middlesex Fells Parkway:—

Land, ...	\$262,628 83	
Miscellaneous, ...	577,383 36	
		840,012 19

Mystic Valley Parkway:—

Land, ...	\$203,990 91	
Miscellaneous, ...	315,425 97	
		519,416 88

Revere Beach Parkway:—

Land, ...	\$537,445 51	
Miscellaneous, ...	858,921 01	
		1,396,366 52

Neponset River Parkway:—

Land, ...	\$83,941 75	
Miscellaneous, ...	36,100 54	
		\$120,042 29

Fresh Pond Parkway:—

Land, ...	\$44,086 25	
Miscellaneous, ...	29,860 79	
		73,947 04

Furnace Brook Parkway:—

Land, ...	\$166,397 77	
Miscellaneous, ...	140,111 91	
		306,509 68

Nahant Beach Parkway:—

Land, ...	\$80,940 78	
Miscellaneous, ...	75,014 13	
		155,954 91

Lynn Fells Parkway:—

Land, ...	\$40,468 46	
Miscellaneous, ...	126,368 88	
		166,837 34

Winthrop Parkway:—

Land, ...	\$38,489 34	
Miscellaneous, ...	45,975 41	
		84,464 75

Alewife Brook Parkway:—

Land, ...	\$144,412 27	
Miscellaneous, ...	10,635 43	
		155,047 70

Charles River Speedway:—

Miscellaneous, ...	\$521,348 66	
		521,348 66

Blue Hills Roads:—

Miscellaneous, ...	\$8,742 06	
		8,742 06

Middlesex Fells Roads:—

Miscellaneous, ...	\$57,495 50	
		57,495 50

Stony Brook Roads:—

Miscellaneous, ...	\$37,183 45	
		37,183 45

Lynnway:—

Land, ...	\$20,500 00	
Miscellaneous, ...	124,366 10	
		\$144,866 10

Spy Pond Parkway:—

Miscellaneous, ...	\$89 04	
		89 04

Old Colony Avenue Parkway:—

Miscellaneous, ...	\$2,223 08	
		2,223 08

Woburn Parkway:—

Miscellaneous, ...	\$2,750 55	
		2,750 55

Dedham Parkway:—

Land, ...	\$3,837 56	
Miscellaneous, ...	968 10	
		4,805 66

Hammond Pond Parkway:—

Miscellaneous, ...	\$118 40	
		118 40

General expense, ...		107,090 19
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\$5,108,317 48

Sinking fund requirement for 1896, ...	\$3,650 03	
Sinking fund requirement for 1897, ...	14,057 10	
Sinking fund requirement for 1898, ...	3,765 08	
Sinking fund requirement for 1899, ...	15,396 00	
One-half interest, ...	22,327 68	
		59,195 89

Total charged to Dec. 1, 1913, ... \$5,167,513 37

Balance Dec. 1, 1913, ... 197,394 04

\$5,364,907 41

NANTASKET BEACH LOAN.

Land, ...	\$603,329 57	
Miscellaneous, ...	102,551 93	

Total charged to Dec. 1, 1913, ... \$705,881 50

CHARLES RIVER BASIN LOAN.

Expended from beginning of work to Dec. 1, 1913, . . . \$4,286,823 98

The above amount has been distributed as follows:—

Administration, ...	\$108,025 16
Dam, ...	1,084,913 27
Lock, ...	728,392 64
Temporary bridge and approaches, ...	184,895 36
Drawbridge, ...	100,371 06
Highway, ...	55,557 85
Dredging, pile-driving and protection work in Basin, ...	149,551 97
Broad Canal, ...	117,251 64
Lechmere Canal, ...	53,388 87
Boston Embankment, ...	871,917 64
Boston Marginal Conduit, ...	635,511 96
Cambridge Marginal Conduit, ...	99,472 48
Elimination of malarial mosquitoes, ...	1,173 68
Landing piers, ...	7,667 99
Float anchorage, ...	23 90
Maintenance, ...	88,708 51
	\$4,286,823 98

Respectfully submitted,

GEO. LYMAN ROGERS,

Secretary.

DEC. 1, 1913.

REPORT OF THE ENGINEER.

HON. WILLIAM B. DE LAS CASAS, *Chairman, Metropolitan Park Commission.*

SIR: — I submit herewith the report of the Engineer for the year ending Nov. 30, 1913.

The Engineering Department has supervised and directed construction work and maintenance, repairs and reconstruction work in the various divisions, has made surveys for takings and supervised similar work of private surveyors, done for the Commission.

On account of the large amount of preliminary work necessary in making surveys for land takings, authorized by chapter 699 of the Acts of 1912, it was thought advisable to employ the services of local private surveyors in some cases, rather than to materially increase the force of this department for a short period of time.

The average number of permanent employees in the department during the past year has been twenty-one.

The new construction work done during the year has been somewhat less than in previous years, but the work of preliminary surveys has increased. The most important piece of construction work has been the Anderson Bridge over the Charles River at North Harvard Street, Boston, and Boylston Street, Cambridge.

The use of bituminous binders, in the repair and maintenance of the roadways under the care of the Commission, has been continued throughout the year.

The care and operation of the locks, drawbridge and gates at the Charles River Dam have been under the direction of this department.

The cost of conducting the department has been as follows: —

Engineering: —					
Construction: —					
Services,	.	.	.	\$13,757	83
Expenses,	.	.	.	1,431	88
					\$15,189 71
Maintenance: —					
Services,	.	.	.	\$10,575	20
Expenses,	.	.	.	2,345	97
					12,921 17
Total,	.	.	.		\$28,110 88

Details of the work done under the direction and supervision of this department are given under the following sections of parkway and reservation and in the tables appended.

CONSTRUCTION.

Parkways.

Alewife Brook Parkway. — A reinforced concrete highway bridge has been built by the city of Somerville and town of Arlington across Alewife Brook channel at Henderson Street Extension, Arlington. The preliminary sketch and estimates for the bridge were prepared in this office, and the final plans and specifications, prepared by the engineer of the city of Somerville, were examined and approved, and the work of construction supervised by this department.

Blue Hills Parkway. — Granolithic walks 4 feet in width have been constructed on the westerly sidewalk, between Blue Hill Avenue and Austin Street. One-half the cost of these walks has been paid by the abutters and one-half by the Commonwealth.

Dedham Parkway. — Surveys and plans have been made for the taking of land for a parkway from Stony Brook Reservation to Boyden Square, Dedham, a distance of about 1 mile. The work has been partly done by this department and partly by E. Worthington, a local engineer and surveyor, under the direction and supervision of this department.

Fresh Pond Parkway. — The work of preparation of conveyance and construction plans for the extension of the parkway from Huron Avenue to Fresh Pond, including plans for new bridge over the Boston & Maine Railroad, is in progress.

Hammond Pond Parkway. — Surveys and plans have been made for the taking of land for the portion of this parkway from Beacon Street to Newton Street, Brookline. The work to date has been done by Henry F. Bryant, an engineer and surveyor having local offices, under the direction and supervision of this office.

Lynn Fells Parkway. — In co-operation with the landscape architects, the work of preparation of plans and estimates to accompany report on the extension of the parkway to Lynn Woods is in progress.

Middlesex Fells Parkway. — Surveys have been made and plans prepared for acquiring land for a roadway on the westerly side of Fellsmere Pond in Malden.

Mystic Valley Parkway. — Surveys have been made and plans prepared for acquiring land for the extension of the parkway from Main Street to Mystic Avenue, Medford. Also preliminary plans for and estimates of cost of construction.

Surveys and preliminary plans are in progress for the extension of Mystic Valley Parkway, along the southerly side of Lower Mystic Lake, to Arlington.

Plans and estimates have been made for the sanitary improvement of Wedgemere Pond, Winchester.

Nahant Beach Parkway. — Plans and estimates have been prepared for the construction of a bulkhead and filling in, for playground purposes, a portion of Lynn Harbor in the rear of the Nahant Beach Bath-house, the material for filling to be supplied from dredging by the Harbor and Land Commissioners in Lynn Harbor.

Plans and estimates have been prepared for changes and additions to Nahant Beach Bath-house.

Old Colony Parkway. — The work of making surveys and preparation of preliminary and taking plans for a parkway or boulevard from Columbia Road to Neponset Bridge, in the city of Boston, is in progress.

Revere Beach Parkway. — A children's playground, with apparatus, has been constructed on land of the Commonwealth near the junction of the parkway and Broadway, Revere. This location, which is in Revere, near the boundary line between

Revere and Chelsea, serves sections of both. The work was done by the forces of the division.

Woburn Parkway. — Surveys have been made and plans prepared for the taking of land for this parkway, and the land has been acquired. Plans and specifications have also been prepared for its construction, and on Oct. 28, 1913, the following bids were received: —

D. M. Biggs & Co., Dorchester, ...	\$62,520 50
T. A. Moynihan, South Hamilton, ...	57,532 50
Long & Little, Leominster, ...	52,651 00
The Henry Spinach Contracting Company, Waterbury, Conn., ...	51,642 00
James McCormick, East Providence, R. I., ...	51,147 50
International Construction Company, Boston, ...	48,803 00
Coleman Brothers, Chelsea, ...	47,095 00
Charles A. Kelley, West Somerville, ...	43,402 50
Rowe Contracting Company, Brighton, ...	43,230 00
James H. Fannon, Somerville, ...	43,097 50
Middlesex Contracting Company, Putnam, Conn., ...	37,703 50

The contract was awarded to the lowest bidder, the Middlesex Contracting Company. Work was begun on Nov. 14, 1913, and is now in progress.

Wakefield Parkway. — Surveys have been made and preliminary plans and estimates have been prepared for a parkway around the northerly side of Lake Quannapowitt.

Reservations.

Blue Hills Reservation. — A pipe line for water supply to the top of Great Blue Hill has been completed, and pump and equipment installed and pump house built. The plant has been in operation during the summer. The water is taken from the town of Canton supply on Blue Hill Street, and is pumped into a cement-lined tank in the observatory basement at the top of the hill. It then flows by gravity to the site of the proposed memorial fountain. The pump is equipped with an automatic starting device controlled by a float switch in the tank, and needs but little attention in its operation. Water has been supplied to the public by this system through an ordinary small

drinking fountain, pending the completion and installation of the memorial fountain. The entire system and memorial fountain have been presented by Mrs. A. Lawrence Rotch.

Plans and estimates have been prepared to accompany report to the Legislature on the advisability of acquiring land around Great Pond, Braintree and Randolph.

Charles River Reservation, Lower Basin. — Plans and specifications have been prepared and bids received for the construction of a wall about 115 feet long on the southerly side of Broad Canal, along the property of the Horgan estate. The proposals have twice exceeded the amount of money available for this work, and after further revision of the plans and a third time asking for proposals, bids have been received which come within the amount of the appropriation, as follows: —

Holbrook, Cabot & Rollins Corporation, Boston,	\$60 00 per lineal foot.
Lawler Brothers, Charlestown, ...	59 99 per lineal foot.

The contract has not yet been awarded, pending agreements between this Commission and the representatives of the Horgan estate.

Plans have been prepared for a wooden drip roof, and the roof has been constructed, under the Boston end of the Harvard Bridge, to protect the Embankment walk, which passes under the bridge. The work was done by the forces of the division, under the direction of this department, and has been completed at a cost of \$147.45.

Plans and specifications have been prepared for the construction of two flights of steps from the Boston end of the Harvard Bridge down to the Embankment walk. On Dec. 9, 1912, the following proposals were received: —

J. N. Fish & Co., ...	\$685 00
W. H. Ellis, ...	647 00
F. G. Whitaker, ...	496 00
S. J. Kelley, Jr., ...	494 00

The proposal of S. J. Kelley, Jr., was accepted and the work was completed on Feb. 18, 1913.

Services have been furnished for the work of building re-
fectory and grading around same, on the Embankment.

At the request of some of the abutters, and at their expense, surveys and estimates of cost of resurfacing Back Street have been made.

The work of depositing the surplus material excavated from the Boylston Street Subway, Boston, on land of the Commonwealth along the banks of the Charles River between Essex Street Bridge, at Cottage Farms, and Cambridge Street, for the grading of future walks and drives, has been continued during a part of the year, until all the material which could be received at this location has been placed. A total of about 140,000 cubic yards of material has been deposited, for which this Commission paid \$5,000, under an agreement to pay 10 cents per cubic yard for not exceeding 50,000 cubic yards. The balance was deposited by the contractors for the subway, Hugh Nawn Contracting Company, free of charge to the Commonwealth.

Charles River Reservation, Upper Division. — The work of constructing the Anderson Bridge across the Charles River at North Harvard Street, Boston, and Boylston Street, Cambridge, which was begun on Nov. 23, 1912, has been in progress during the year and is now practically completed, except the permanent surfacing of the roadways and walks and the lighting system. On account of favorable weather during the winter months of 1912 and 1913, it was possible to make good progress with the work, and, by placing a temporary surfacing on the roadway and walks, to open it to public traffic on Oct. 18, 1913, about a month earlier than originally expected. It was not deemed advisable to place the permanent surfacing on the bridge and approaches this fall, on account of settlements which will probably take place in the new fill. It is expected to do this work in the early spring. The new bridge served the purpose of adequately accommodating the enormous crowds which attend the fall football games at the Harvard Stadium.

The bridge is composed of three arches and is built of reinforced concrete, with red brick and cast stone trimmings. It is 60 feet in width between parapets, with a roadway 40 feet

in width and two walks each 10 feet in width. The total length of the bridge is 440 feet.

The cost of this work to Dec. 1, 1913, as certified by this department, has been as follows:—

Contract No. 149:—

Years ending Nov. 30, 1911, and Nov. 30, 1912:—

Engineering services:—

Preliminary, . . . \$1,265 80

Actual, . . . 14 40

\$1,280 20

Engineering expenses, . . . 629 80

\$1,910 00

Year ending Nov. 30, 1913:—

Contract estimates, . . . \$166,661 95

Lighting temporary bridge, . . . 179 20

Engineering services:—

Preliminary, . . . \$372 50

Actual, . . . 5,634 40

6,006 90

Engineering expenses, . . . 481 72

173,329 77

Total, ... \$175,239 77

A temporary roadway was constructed on the southerly side of the Charles River, between North Harvard Street and Western Avenue, by shaping up the material previously deposited on this location for subgrade. This work was done for the convenience of the public during the construction of the Anderson Bridge, which necessitated the closing of this connection between Boston and Cambridge. The cost of this temporary roadway was \$1,100.35.

Plans and specifications have been prepared for dredging in the Charles River between North Beacon Street, Boston, and Galen Street, Watertown, the dredged material to be deposited upon the southerly bank of the river, to form the subgrade of future driveway. On Sept. 23, 1913, the following proposals were received:—

Coleman Brothers, Chelsea, ...	\$43,400 00
Eastern Dredging Company, Boston, ...	40,000 00
Bay State Dredging Company, Boston, ...	35,900 00

The contract was awarded to the Bay State Dredging Company, the lowest bidder, but the work is postponed until early spring on account of the fact that the ice in the river during the winter months would prevent the prosecution of the work, and too short a time remained before winter to complete the work.

The work of making estimate of cost of widening old stone bridge on Wales Street and Walnut Street, Newton Upper Falls, is in progress.

A children's playground, with apparatus, has been constructed near Moody Street, Waltham, on land of the Commonwealth on the river bank.

Middlesex Fells Reservation. — Plans and estimates of cost have been made for the construction of landing places and necessary retaining walls and stairs at the Spot Pond Station of the Boston Elevated Railway Company.

Surveys, studies and estimates of cost have been made for changes in roads at the junction of Woodland Road and Ravine Road, and of a portion of Forest Street, near Porter's Cove.

Mystic River Reservation. — On account of the large amount of motor-boat traffic through the Cradock Bridge lock, greater speed of operation was necessary. To accomplish this, two additional filling gates have been constructed in the lock-gates.

Neponset River Reservation. — About 190 acres of marsh land belonging to the Commonwealth between Granite Avenue and Milton Station have been ditched for the purpose of draining, and thereby preventing mosquito breeding. The work was done by the United States Drainage and Irrigation Company, and the cost was \$2,777.30.

Supervision has been given by this department to the work of depositing and spreading the material dredged from the Neponset River by the contractor for the State Board of Health. But little progress has been made by them in the work of spreading the material, as required by this Commission.

Revere Beach Reservation. — Granolithic walks have been constructed in the westerly promenade, from a point near Shirley Avenue to Charles Eliot Circle. The work was done by W. A. Murtfeldt Company, the lowest bidders, and 2,172.53 square yards were laid at a total cost of \$2,199.84.

MAINTENANCE.

Parkways.

Blue Hills Parkway. — A portion of the southerly end of the easterly roadway or pleasure drive, 1,000 feet in length, has been reconstructed by excavating to a depth of about 12 inches and filling with stone. This section of roadway was very wet and springy in the subgrade and rutted badly in winter. The underdrainage system laid the previous year did not wholly eliminate this condition, and it was necessary to reconstruct with the coarse stone subgrade. The work was done by the forces of the division at a total cost of \$2,729.75.

The easterly sidewalk from Mattapan Square to Brook Road, a length of about 1,500 feet, which was constructed of gravel and had become badly worn and uneven, has been resurfaced with soft coal cinders, with a surface treatment of tar and sand. The work was done by the forces of the division at a cost of \$163.75.

Fresh Pond Parkway. — The system of lighting of the parkway has been changed from Welsbach naphtha lamps to electric incandescent Tungsten lamps. Underground conduits were laid for the wires for this system, and the work was done by the Cambridge Electric Light Company at its own expense. The lighting has been improved and the cost diminished.

Revere Beach Parkway. — A portion of northerly roadway, between Second Street and Vine Street, Everett, a length of 1,700 feet, has been resurfaced with bituminous macadam. A section about 700 feet in length, west of Malden River Bridge, Medford, and a section 400 feet in length, at the junction with the State Highway at Revere, have also been resurfaced with bituminous macadam.

Reservations.

Blue Hills Reservation. — A topographical survey and map have been made of the section from Administration Road to Unquity Road, in the rear of the administration buildings.

Preliminary estimates have been made of cost of widening and changes of lines and grades of some of the most important



CHARLES RIVER RESERVATION.—Band Concert at Fox Island.

of the reservation roads, to make them safe for automobile traffic.

Charles River Reservation, Lower Basin. — During February, 1913, the large gates of the ship-lock were repaired and painted. This work requires the closing of the lock to traffic for about one month, and arrangements were made to do it at the same time as the work of repairs to the drawbridges of the Boston & Maine Railroad Company, just below the lock, was in progress. Their work required the closing of the bridges to water traffic, and therefore nothing would come to the lock. The work on the gates was done by the forces employed for the operation of the locks and bridges, with the assistance of painters furnished by a contractor. On account of the extremely severe conditions to which these gates are subjected, it will probably be necessary to repaint them once each year, at least.

The ship-lock has been pumped out three times during the year for the purpose of inspecting, cleaning and necessary repairing. All iron work in both lock-gate houses has been cleaned and painted.

The heating plant was shut down from May 27 to October 13. During this time the boilers were inspected by the State inspector and found in good condition. The fire boxes were relined and the arches and plates replaced.

The iron mains and returns of the heating system in the lock-gates have been replaced by brass pipe.

The small boat-lock was open for traffic from May 30 to October 8.

The Boston and Cambridge Marginal Conduits have been twice inspected and flushed. One new tide-gate has been built to replace lost one, and general repairs have been made to the tide-gates.

The Fens Gate House and all gates and electrical apparatus are in good condition. The chemist of the State Police has been given a permit to establish a small laboratory in the building.

The drawbridge surface planking has been renewed twice during the year. The steel work of the bridge has been entirely repainted.

In October, 1912, bids were asked by public advertisement

for furnishing tow boats for the winter of 1912-13, for ice breaking in the channels and canals below Cambridge Bridge, as required by statute. Only one bid was received, that of J. P. O'Riorden, at \$4.90 per hour, and his proposal was accepted. On account of unusually mild weather and the closing of the lock during February for repairs to gates, it was necessary to employ the boats for only 94½ hours, at a total cost of \$463.05. The average cost in previous winters has been about \$3,500 for about 1,000 hours.

The following is a record of the traffic and freights which have passed through the locks during the year:—

Main Lock.

Number of openings, 4,115; number of vessels, 4,343; and 3,002 small boats.

Lumber, ...	22,630,700 ft. B. M.	Coal, ...	393,895 tons.
Piling, ...	1,748,394 lin. ft.	Sand, ...	71,868 tons.
Laths, ...	1,087,000 pieces.	Granite, ...	12,514 tons.
Wood, ...	235 cords.	Loam, ...	400 tons.
Oil, ...	156,025 bbls.	Gravel, ...	10,368 tons.
Asphalt, ...	5,410 bbls.	Wood paving blocks,	900 tons.
Water, ...	36,800 gals.	Iron pipe, ...	750 tons.

Small Boat-lock.

Number of openings, 2,195; number of boats, 2,795.

The hose connections of the 4-inch main in the Charles River Embankment, between Cambridge Bridge and the Fens Gate House, have been changed from 1 inch to 4 inches, so as to allow the use of large revolving lawn sprinklers.

Portions of the granolithic surfacing of the Embankment walk which had become damaged by settlement of the filling underneath have been repaired.

Surveys have been made and permanent marks established along the Embankment wall for racing distances for regattas on the Basin.

Lynn Shore Reservation.—Arrangements have been made for installing a system of electric lighting by means of mag-

netite arc lamps with underground conduits and wires, to replace the present Welsbach naphtha lamps. It is expected to have a contract made with the Lynn Gas and Electric Company and the system installed and in operation before Jan. 1, 1914.

Nantasket Beach Reservation. — Some additional concrete floors have been constructed in the kitchen and storeroom of the Rockland Café.

Arrangements have been made with the Hull electric light department for changes in the street lighting system, for the purpose of improving it, and the changes have been made.

Quincy Shore Reservation. — The channel of Sachem Brook across the reservation and under the bridge has been excavated and cleaned. The material eroded from the beach south of this channel, by storms, is deposited in the channel, and requires frequent excavation to keep it clear. The work was done by the forces of the division at a cost of \$300.

The westerly approach to the bridge over the New York, New Haven & Hartford Railroad from Hancock Street has been regraded. Considerable settlement has taken place on this section since it was opened to traffic, but only a temporary surface has been built, to allow this settlement without serious damage.

Revere Beach Reservation. — Estimates of cost of repairs to wooden floors of Revere Beach Bath-house yards have been made, the materials for the work have been ordered, the defective floors removed, and it is expected to do immediately the work of replacing with new material.

GENERAL.

The work of repairs and maintenance of roadways in the parkways and reservations, and the work of oil and tar treatments for their preservation, where necessary, has been done under the supervision of this department. Engineering services have been furnished for this and other maintenance work in the various divisions.

The bridges under the care and control of this Commission have been inspected and report made to the Secretary, with recommendations for necessary repairs. In accordance with

orders of the lighthouse department of the United States government, the drawbridges under our care must be lighted with red and green lanterns. The work of installing these lights to conform to their regulations is in progress.

One hundred and sixty-six permits have been granted to cities, towns, corporations and individuals for work in the parkways and reservations, and supervision and inspection of this work has been given by this department at a cost of \$949.73.

Miscellaneous surveys and plans for land conveyances have been made.

The following tables are appended to this report: —

TABLE 1. Data relating to Metropolitan Park System.

TABLE 2. Summary of cost of road repairs and maintenance.

Respectfully submitted,

JOHN R. RABLIN,
Engineer.

DEC. 1, 1913.

Lengths of Formal Roads constructed.

Reservations:—	Double Roadways (Miles).	Single Roadways (Miles).	Total Miles.
Charles River, ...	—	4.08	
Lynn Shore, ...	—	.96	
Quincy Shore, ...	—	2.24	
Revere Beach, ...	—	2.70	
Stony Brook, ...	—	2.34	
Winthrop Shore, ...	—	1.07	
			13.39
Parkways:—			
Blue Hills, ...	1.46	.81	
Fresh Pond, ...	—	.52	
Furnace Brook, ...	—	1.49	
Lynn Fells, ...	—	1.04	
Lynnway, ...	—	.69	
Middlesex Fells, ...	4.52	1.09	
Mystic Valley, ...	—	4.99	
Nahant Beach, ...	—	.25	
Neponset River, ...	—	.53	
Revere Beach, ...	3.74	1.50	
Winthrop, ...	—	.42	
			13.33
	9.72 *		
* Equivalent in miles of single roadway, ...			19.44
Highways transferred by or taken from cities and towns:—		Miles.	
Blue Hills Reservation, ...		1.23	
Middlesex Fells Reservation, ...		6.63	
Nantasket Beach Reservation, ...		.71	
			8.57
Grand total, ...			54.73

All above roads open to automobile traffic except .81 mile at Blue Hills Parkway.

Lengths of Carriage Roads in Reservations.

	Miles.
Blue Hills Reservation, ...	28.60
Middlesex Fells Reservation, ...	17.50
Stony Brook Reservation, ...	1.60
Beaver Brook Reservation, ...	.22
Charles River Reservation, ...	3.70
Total, ...	51.62

Lights in Parkways and Reservations.

	Lights.
Blue Hills Parkway (Welsbach), ...	80
Furnace Brook Parkway (Welsbach), ...	43
Middlesex Fells Parkway (Welsbach), ...	249
Middlesex Fells Reservation (Welsbach), ...	29
Middlesex Fells Reservation (electric), ...	41
Mystic Valley Parkway (Welsbach), ...	149
Mystic River Reservation, at Cradock Bridge, Medford (electric),	14
Lynn Fells Parkway (Welsbach), ...	43
Nantasket Beach Reservation (electric), ...	43
Winthrop Parkway (Welsbach), ...	11
Winthrop Shore Reservation (electric), ...	7
Nahant Beach Parkway (electric), ...	6
Lynn Shore Reservation (Welsbach), ...	44
Lynnway (electric), ...	17
Charles River Reservation, Speedway Section (Welsbach), .	69
Revere Beach Parkway (Welsbach), ...	168
Revere Beach Parkway (electric), ...	1
Fresh Pond Parkway (Welsbach), ...	15
Quincy Shore Reservation (Welsbach), ...	56
Quincy Shore Reservation (electric), ...	2
Revere Beach Reservation (Welsbach), ...	88
Revere Beach Reservation (electric), ...	17
Charles River Reservation, Boston Embankment (electric), .	104
Charles River Reservation, Lower Basin, Dam and Lock (electric), ...	12
Total, ...	1,308

Miles of Seashore.

	Miles.
Lynn Shore, ...	1.50
Nahant Beach, ...	3.92
Revere Beach, ...	2.74
Winthrop Shore, ...	1.08
Nantasket Beach, ...	1.02
Quincy Shore, ...	1.81
Total, ...	12.07

Lengths of Sea Walls.

	Miles.
Lynn Shore, ...	1.30
Revere Beach, at Northern Circle, ...	.08
Revere Beach, at Eliot Circle, ...	.15

	Miles.
Winthrop Shore, Bridge to Great Head, ...	1.04
Winthrop Shore, near Grover's Cliff, ...	.09
Quincy Shore Reservation, southerly end, ...	.15
Total, ...	2.81

Miles of River Bank.

	Miles.
Charles River, ...	27.56
Mystic River, ...	8.16
Neponset River, ...	15.84
Alewife Brook, ...	4.50
Total, ...	56.06

Bridges.

Reinforced concrete bridges, ...	8
Steel bridges, ...	9
Wooden bridges, ...	5
Drawbridges, ...	4
Footbridges, ...	11
Total, ...	37

Culverts.

Reinforced concrete and other masonry culverts, ...	21
---	----

Dams.

Beaver Brook Reservation, small wooden dams, ...	2
Charles River Reservation, Charles River Basin Tidal Dam, 1,200 feet in length, ...	1
Charles River Reservation, reinforced concrete dam at Washington Street, Newton Lower Falls, 200 feet in length, ...	1
Hemlock Gorge Reservation, small reinforced concrete dam on East Branch of river, Newton Upper Falls, ...	1
Hemlock Gorge Reservation, reinforced concrete dam in Charles River at Boylston Street, Newton Upper Falls, 90 feet in length, ...	1
Mystic River Reservation, reinforced concrete tidal dam at Cragdock Bridge, 100 feet in length; weirs, 400 feet in length, ...	1
Total, ...	7

Lock-gates, Sluice-gates and Tide-gates.

Charles River Reservation, Charles River Basin Tidal Dam, 6 lock-gates, 13 sluice-gates, 43 tide-gates.

Mystic River Reservation, Cradock Bridge Tidal Dam, 2 lock-gates, 4 sluice-gates, 8 tide-gates.

Quincy Shore Reservation, 8 tide-gates.

Revere Beach Parkway, 1 tide-gate.

Police Signal System.

	Miles.
Blue Hills Division, ...	30
Middlesex Fells Division, ...	18 $\frac{1}{4}$
Nantasket Beach Division, ...	2 $\frac{1}{2}$
Total, ...	50 $\frac{3}{4}$

Revere Beach Division Police Signal System, serving 11 miles of parkways and reservations, on wires leased from New England Telephone and Telegraph Company.

TABLE 2. — SUMMARY OF COST OF ROAD REPAIRS AND MAINTENANCE, 1913.

PARKWAY OR RESERVATION.	Length (Feet).	Width of Roadway (Feet).	Square Yards.	COST PER SQUARE YARD IN DETAIL.							Total Cost (Cents).	Remarks.	Location.	
				BITUMINOUS BINDER OR DUST LAYER.						Total Cost (Cents).				
				Labor (Cents).	Gravel (Cents).	Broken Stone (Cents).	Sand (Cents).	Kind of Material.	Gallons per Square Yard.					Cost (Cents).
Blue Hills Parkway.	1,610	26 and 30	4,962	15.12	-	3.82	-	Tarime (American Tar Company).	.650	5.09	-	24.03	Patching and surface treatment.	Mattapan Bridge to Brook Road (Traffic side), Milton.
Blue Hills Parkway.	7,700	36	30,800	2.06	-	-	-	Asphaltic oil (the Texas Company).	.219	1.18	-	3.24	Surface treatment.	Mattapan Bridge to Canton Avenue (easterly or Pleasure Drive), Milton.
Blue Hills Parkway.	2,550	8	2,207	1.90	-	1.11	-	Tarime, ...	.295	2.42	-	5.43	Surface treatment.	2,550 feet southerly from Houston Avenue (westerly or Traffic side), Milton.
Blue Hills Parkway.	1,900	26	5,489	1.43	-	-	-	Asphaltic oil (the Texas Company).	.219	1.18	-	2.61	Surface treatment.	1,900 feet northerly from Canton Avenue (westerly or Traffic side), Milton.
Blue Hills Reservation.	2,600	36	10,400	.53	-	-	-	Asphaltic oil (the Texas Company).	.173	.93	-	1.46	Surface treatment.	Canton Avenue (westerly or Traffic side), Milton.
Blue Hills Reservation.	1,500	16	2,667	.67	-	-	-	Asphaltic oil (the Texas Company).	.112	.61	-	1.28	Surface treatment.	Blue Hills Parkway Extension to Harland Street, Milton.
Blue Hills Reservation.	6,500	16	11,556	1.26	-	-	-	Asphaltic oil (the Texas Company).	.208	1.12	-	2.38	Surface treatment.	Harland Street, Milton.
Blue Hills Reservation.	8,500	16	15,111	2.42	-	-	-	Asphaltic oil (the Texas Company).	.278	1.50	-	3.92	Surface treatment.	Hillside Street, Milton.
Blue Hills Reservation.	5,700	16	10,133	.72	-	-	-	Asphaltic oil (the Texas Company).	.118	.64	-	1.36	Surface treatment.	Unquity Road, Milton.
														Border Road from Hillside Street to Randolph Avenue, Milton and Randolph.

TABLE 2. — SUMMARY OF COST OF ROAD REPAIRS AND MAINTENANCE, 1913 — *Continued.*

PARKWAY OR RESERVATION.	Length (Feet).	Width of Roadway (Feet).	Square Yards.	COST PER SQUARE YARD IN DETAIL.										Total Amount.	Remarks.	Location.
				BITUMINOUS BINDER OR DUST LAYER.						Total Cost (Cents).						
				Labor (Cents).	Gravel (Cents).	Broken Stone (Cents).	Sand (Cents).	Kind of Material.	Gallons per Square Yard.	Cost (Cents).	Cost of Applying (Cents).					
Charles River Reservation.	220	45	1,100	9.77	-	15.38	-	Tarvia (Barrett Manufacturing Company).	1.423	11.38	-	36.53	\$401 90	Reconstruction,	Embankment Road, near Otter Street, Boston.	
Charles River Reservation.	1,880	45	8,573	1.68	-	2.10	.22	Tarvia, . . .	.337	2.70	.33	7.03	602 93	Surface treatment,	Embankment Road, near Otter Street, to Charles Street, Boston.	
Charles River Reservation.	9,200	40 and 60	55,550	.45	.36	-	-	Calcium chloride, . .	-	1.57	-	2.38	1,324 47	Surface treatment,	Soldiers Field Road, Brighton.	
Charles River Reservation.	9,300	13	13,500	1.17	-	-	-	Asphaltic oil No. 4 (Standard Oil Company).	-	1.50	-	2.67	358 94	Surface treatment,	Quinobequin Road, Newton Upper to Newton Lower Falls.	
Fresh Pond Parkway, .	2,700	40	12,000	2.18	.83	-	-	Asphaltic oil No. 4, .	-	1.50	-	4.51	541 88	Surface treatment,	Mt. Auburn Street to Huron Avenue, Cambridge.	
Furnace Brook Parkway.	7,700	34, 36, 40	31,510	1.10	-	-	-	Asphaltic oil No. 1 (the Texas Company).	.231	1.30	-	2.40	758 07	Surface treatment,	Adams Street to Bunker Hill Lane, Quincy.	
Lynn Fells Parkway, .	5,715	32-40	24,053	.64	-	-	1.75	Asphaltic oil No. 6 (Standard Oil Company).	.291	1.68	.44	4.51	1,084 07	Surface treatment,	Middlesex Fells Reservation to Bellevue Avenue, Stoneham and Melrose.	
Lynn Shore Reservation.	2,975	40	11,972	1.00	-	.94	-	Tarvia, . . .	.275	2.34	-	4.28	512 41	Surface treatment,	Nahant line to Prescott Place, Lynn.	
Middlesex Fells Parkway.	3,200	30-40	11,667	-	-	3.65	-	Tarine, . . .	.264	1.85	.20	5.70	665 50	Surface treatment,	Broadway to Wellington Bridge (Westerly Roadway), Somerville.	
Middlesex Fells Parkway.	1,500	36	6,000	1.76	-	2.47	-	Tarine, . . .	.267	1.73	.26	6.22	372 98	Surface treatment and patching.	Easterly Roadway, Wellington Bridge to Revere Beach Parkway, Medford.	

Middlesex Fells Parkway.	1,450	36	5,800	1.27	-	-	1.78	Asphaltic oil No. 6 (Standard Oil Company).	.414	2.38	1.27	6.70	388 85	Surface treatment,	Medford Branch Bridge to Medford Street (Easterly Roadway), Medford.
Middlesex Fells Parkway.	4,615	26	13,332	1.74	-	1.56	.97	Asphalt binder A (Standard Oil Company).	.379	2.61	1.19	8.07	1,076 60	Surface treatment,	Salem Street to Forrest Street (Southerly Roadway), Medford.
Middlesex Fells Parkway.	3,900	25	10,445	1.36	-	-	1.49	Asphaltic oil No. 6 (Standard Oil Company).	.370	2.13	.63	5.61	586 23	Surface treatment,	Forest Street (Pleasure Drive), Medford.
Middlesex Fells Parkway.	3,704	36	14,236	1.38	-	1.62	-	Tarvia, . . .	.253	2.15	.38	5.53	787 20	Surface treatment,	Pleasant Street to Highland Avenue (Fellsway East), Malden.
Middlesex Fells Reservation.	3,100	18	6,200	3.17	-	-	1.68	Asphaltic oil No. 6 (Standard Oil Company).	.415	2.39	.68	7.92	491 03	Surface treatment,	Elm Street, Medford.
Middlesex Fells Reservation.	2,150	18	4,300	1.03	-	-	3.66	Asphaltic oil No. 6 (Standard Oil Company).	.467	2.69	.61	7.99	343 64	Surface treatment,	Emerson Street Border Road, Lynn Fells Parkway to Wyoming Avenue, Stoneham.
Middlesex Fells Reservation.	1,500	18	3,000	.63	-	-	1.31	Asphaltic oil No. 6 (Standard Oil Company).	.461	2.65	1.92	6.51	195 37	Surface treatment,	South Street, Main Street to Pond Street, Stoneham.
Middlesex Fells Reservation.	956	18	1,912	.59	-	-	1.29	Asphaltic oil No. 6 (Standard Oil Company).	.434	2.49	1.79	6.16	117 76	Surface treatment,	New South Street, Main Street to South Street, Stoneham.
Middlesex Fells Reservation.	1,250	20	2,778	35.01	21.23	52.05	-	-	-	-	-	108.29	3,008 35	Reconstruction,	Pond Street, Emerson Street to Border Road to Spring Road, Stoneham.
Middlesex Fells Reservation.	1,100	20	2,445	14.10	-	24.00	-	Asphalt binder A (Standard Oil Company).	1.600	16.10	-	54.20	1,323 76	Reconstruction,	Highland Avenue, Elm Street to Malden Border Road, Medford.
Middlesex Fells Reservation.	2,870	17	5,420	17.20	-	36.72	-	Asphalt binder A (Standard Oil Company).	1.700	15.22	-	69.10	3,745 46	Reconstruction,	Border Road, Highland Avenue to Fellsway East, Medford and Malden.
Middlesex Fells Reservation.	1,784	17	3,370	43.79	-	41.01	-	Asphalt binder A (Standard Oil Company).	1.744	12.92	5.30	103.02	3,471 80	Reconstruction,	Border Road, Fellsway East to Sumner Street, Malden.
Nahant Beach Parkway.	-	-	6,000	1.17	-	1.08	-	Tarvia, . . .	.280	2.34	-	4.59	276 08	Surface treatment,	Near Bath-house, Nahant.
Nantasket Beach Reservation.	3,760	40	16,600	.68	-	-	-	Tarvia B, . . .	.477	4.52	.23	5.43	904 22	Surface treatment,	Nantasket Avenue, entire length, Hull.
Neponset River Parkway.	2,750	26	7,944	.92	-	-	-	Asphaltic oil (the Texas Company).	.208	1.12	-	2.04	162 10	Surface treatment,	Blue Hill Avenue to Brush Hill Road, Milton.

TABLE 2. — SUMMARY OF COST OF ROAD REPAIRS AND MAINTENANCE, 1913 — *Concluded.*

PARKWAY OR RESERVATION.	Length (Feet).	Width of Roadway (Feet).	Square Yards.	COST PER SQUARE YARD IN DETAIL.								Total Amount.	Remarks.	Location.	
				BITUMINOUS BINDER OR DUST LAYER.						Total Cost (Cents).					
				Labor (Cents).	Gravel (Cents).	Broken Stone (Cents).	Sand (Cents).	Kind of Material.	Gallons per Square Yard.		Cost (Cents).				Cost of Applying (Cents).
Quincy Shore Reservation.	11,720	24 and 40	37,345	1.27	.90	-	-	Tarine, . . .	.526	4.50	-	6.67	Surface treatment,	Hancock Street to Fenno Street, Quincy.	
Revere Beach Parkway,	525	28	1,633	26.64	-	30.23	-	Tarine, . . .	2.310	17.36	-	74.23	Reconstruction, .	Near Malden River Bridge Medford.	
Revere Beach Parkway,	1,650	36	6,800	20.80	-	27.10	-	Tarine, . . .	2.580	19.40	-	67.30	Reconstruction, .	Second Street to Vine Street, Everett.	
Revere Beach Parkway,	400	26	1,156	2.08	-	1.16	-	Tarine, . . .	.674	5.04	-	8.28	Surface treatment,	Second Street to Spring Street, Everett.	
Revere Beach Parkway,	250	36	1,000	69.75	11.30	39.76	1.25	Tarine, . . .	2.268	15.50	1.35	138.91	Reconstruction, .	Portion between Broadway and Borden Street, Revere.	
Revere Beach Parkway,	4,620	36	18,489	3.38	-	1.93	-	Tarine, . . .	1.800	1.37	-	6.68	Patching and surface treatment.	Broadway to Webster Avenue, Chelsea.	
Revere Beach Parkway,	1,540	26	4,450	1.45	-	-	.45	Tarine, . . .	.270	2.16	-	4.06	Surface treatment,	Webster Avenue to Washington Avenue (traffic road), Chelsea.	
Revere Beach Parkway,	1,560	36	6,240	1.69	-	.36	-	Tarine, . . .	.150	1.14	-	3.19	Patching, . . .	Webster Avenue to Washington Avenue (south side), Chelsea.	
Revere Beach Parkway,	2,400	36	9,600	1.13	-	.52	-	Tarine, . . .	.040	.27	-	1.92	Patching, . . .	Broadway to Railroad Street, Revere.	
Revere Beach Parkway,	1,740	36	6,960	.22	-	-	-	Tarine, . . .	.030	.21	-	.43	Patching, . . .	Everett Avenue to Washington Avenue, Everett and Chelsea.	
Revere Beach Parkway,	1,500	36	6,000	2.13	-	1.40	-	Tarine, . . .	.420	3.16	-	6.69	Patching and surface treatment.	Stowers Court to Campbell Avenue, Revere.	
Revere Beach Parkway,	410	-	2,740	8.20	-	10.50	-	Tarine, . . .	1.860	13.98	-	32.68	Reconstruction and surface treatment.	State Road, near Eliot Circle, Revere.	

Revere Beach Parkway,	1,000	36	4,000	.97	-	1.11	-	Tarime, . . .	.250	1.90	-	3.98	158 13	Surface treatment,	Waverly Avenue to Double Road, Revere.
Revere Beach Reservation.	6,030	40	25,000	1.44	-	.36	-	Tarime, . . .	.350	2.36	-	4.16	1,039 07	Surface treatment,	Oak Island to Northern Circle, Revere.
Revere Beach Reservation.	4,300	40	16,772	.82	-	.79	-	Tarime, . . .	.306	2.29	-	3.90	654 57	Surface treatment,	Revere Street to Shirley Avenue, Revere.
Stony Brook Reservation.	10,975	16	19,511	1.40	-	-	.18	Asphaltic oil (the Texas Company).	.185	1.24	-	2.82	550 65	Surface treatment,	Turtle Pond Road, Boston.
Stony Brook Reservation.	2,100	16	3,734	1.80	-	-	.32	Asphaltic oil (the Texas Company).	.320	2.36	-	4.48	166 88	Surface treatment,	Bold Knob Road, Boston.
Stony Brook Reservation.	4,300	18	8,600	.78	-	-	.07	Asphaltic oil (the Texas Company).	.210	1.47	-	2.32	199 28	Surface treatment,	Border Road, Boston.
Winthrop Shore Reservation.	1,100	26 and 36	3,440	11.80	1.41	6.00	-	Tarvia, . . .	1.906	16.20	.84	36.25	1,247 00	Resurfacing,	Grovers Avenue to Locust Street and Beach Road, Winthrop.

FINANCIAL STATEMENT.

DEC. 1, 1912, TO DEC. 1, 1913.

Metropolitan Parks Loan Fund, ...	\$8,900,000 00
Receipts added to loan before June 1, 1901, ...	198,334 01
	<u>\$9,098,334 01</u>

Expenditures.

Charles River Reservation: —	
Land, ...	\$650 00
Legal, ...	370 07
	<u>\$1,020 07</u>
Neponset River Reservation: —	
Legal, ...	\$11 00
	<u>11 00</u>
Alewife Brook Purification: —	
Construction, labor and materials, ...	\$9 44
	<u>9 44</u>
	<u>\$1,040 51</u>
Amounts charged to Dec. 1, 1912, ...	9,032,398 87
	<u>9,033,439 38</u>
Balance, ...	<u><u>\$64,894 63</u></u>

METROPOLITAN PARKS LOAN FUND, SERIES II.

Metropolitan Parks Loan Fund, Series II, ...	\$5,335,000 00
Receipts added to loan before June 1, 1901, ...	29,907 41
	<u>\$5,364,907 41</u>

Expenditures.

Middlesex Fells Parkway: —	
Engineering: —	
Pay rolls, ...	\$171 10
Expenses, ...	1 50
	<u>\$172 60</u>
	<u>\$172 60</u>
Mystic Valley Parkway: —	
Engineering: —	
Pay rolls, ...	\$422 50
Expenses, ...	81 40
	<u>\$503 90</u>
Testing borings, ...	37 47
	<u>541 37</u>
Amounts carried forward, ...	\$713 97
	<u>\$5,364,907 41</u>

<i>Amounts brought forward,</i>		\$713 97	\$5,364,907 41
Fresh Pond Parkway: —			
Engineering: —			
Pay rolls,	\$37 45		
Expenses,	10		
		\$37 55	
			37 55
Winthrop Parkway: —			
Construction, labor and materials,	\$236 55		
			236 55
Alewife Brook Parkway: —			
Land,	\$5,035 71		
Construction, labor and materials,	58 75		
Engineering, expenses,	90		
Legal,	15 77		
Claims,	50 00		
			5,161 13
Old Colony Avenue Parkway: —			
Landscape Architects: —			
Services,	\$116 19		
Expenses,	13 87		
		\$130 06	
Engineering: —			
Pay rolls,	\$1,943 20		
Expenses,	115 22		
		2,058 42	
Claims,		34 60	
			2,223 08
Woburn Parkway: —			
Engineering: —			
Pay rolls,	\$2,170 55		
Expenses,	170 00		
		\$2,340 55	
Legal,		190 00	
Claims,		220 00	
			2,750 55
Dedham Parkway: —			
Land,	\$3,837 56		
Engineering: —			
Pay rolls,	\$338 45		
Expenses,	222 15		
		560 60	
Legal,		187 50	
Claims,		220 00	
			4,805 66
Hammond Pond Parkway: —			
Engineering: —			
Pay rolls,	\$81 80		
Expenses,	30 10		
		\$111 90	
Claims,		6 50	
			118 40
			\$16,046 89
Amounts charged to Dec. 1, 1912,		5,151,466 48	
			5,167,513 37
Balance,			\$197,394 04

CHARLES RIVER BASIN LOAN.

Total amount of bonds, ...	\$4,465,000 00
Receipts added to loan, ...	9,340 75
	\$4,474,340 75

Expenditures.

Engineering:—		
Chief and division engineers, ...	\$68 25	
Engineering assistants, ...	138 70	
Traveling, ...	25	
		\$207 20

Construction—Contracts:—		
Contract No. 148, James H. Fannon, ...	\$3,346 85	
Contract No. 150, W. H. Ellis, ...	2,472 00	
Burke Brothers, refreshment shelter, ...	4,405 00	
W. A. and H. A. Root, addition and alterations to Lower Lock Gate House, ...	4,250 00	
		\$14,473 85

Construction—preliminary:—		
Advertising, ...	126 10	

Construction—additional:—		
Labor, ...	\$23 25	
Professional services, ...	2,504 79	
Jobbing and repairing, ...	196 66	
Hardware, ...	80	
Castings, iron work and metals, ...	86 73	
Lumber, ...	11 98	
Grading around shelter, ...	605 23	
Storm sashes and doors, shelter, ...	672 00	
Plants, ...	74 50	
Conduit for telephone, ...	140 11	
Tables and chairs for shelter, ...	31 35	
Heater for shelter, ...	8 55	
Grading between Otter Street and Union Boat Club, ...	127 78	
Operating stands and levers, ...	1,580 00	
Steps, Boston end of Harvard Bridge, ...	494 00	
Repaving dam, ...	450 00	
Plank walks, ...	30 38	
Landings, ...	20 00	
		7,058 11
		21,658 06

	\$21,865 26	
Amounts charged to Dec. 1, 1912, ...	4,264,958 72	
		4,286,823 98

Balance, ...	\$187,516 77
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METROPOLITAN PARKS SYSTEM MAINTENANCE.

Appropriation, Dec. 1, 1912, to Dec. 1, 1913, ...	\$390,922 72
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Expenditures.

General expense:—		
Police:—		
Pay rolls, ...	\$82,925 03	
Miscellaneous, ...	10,140 51	
		\$93,065 54
Amounts carried forward, ...	\$93,065 54	\$390,922 72

<i>Amounts brought forward,</i>		\$93,065 54	\$390,922 72
Salaries: —			
Commissioners,	\$3,450 00		
General office,	8,270 00		
Engineering department,	6,464 45		
		18,184 45	
Engineering supplies,		899 55	
Rent, lighting and care of offices,		3,036 39	
Telephones,		916 12	
Stationery and printing,		807 40	
Annual report, one-half,		514 10	
Postage, etc.,		371 00	
Maps and books,		279 58	
Traveling,		165 46	
Automobile supplies and repairs,		79 63	
Premiums on bonds,		60 00	
Typewriter,		59 25	
Reports of hearings,		41 25	
Filing cabinets, cards, etc.,		37 35	
Towel supply,		35 84	
Office repairs,		34 74	
Recording papers,		25 84	
Typewriter supplies and repairs,		20 50	
Clock,		20 00	
Spring water,		20 00	
Ice,		18 00	
Press clippings,		17 85	
Mailing tubes,		16 20	
Rubber stamps,		15 35	
Electrical supplies and repairs,		14 75	
Advertising,		9 15	
Express,		4 85	
Copy cloths,		4 50	
Disinfectant,		3 50	
Rent of typewriter,		3 00	
Automobile license fees,		2 50	
Packing cases,		2 50	
Gauze,		2 32	
Wrapping paper,		1 71	
Mats,		1 57	
Soap,		1 40	
Thermometer,		1 25	
Cleaning windows,		1 00	
Miscellaneous,		95	
			\$118,796 34
Blue Hills Reservation: —			
Labor,	\$22,318 08		
Teaming,	1,014 00		
Keep of horses,	3,822 46		
Horses, carriages, automobiles, etc.,	2,322 62		
		\$29,477 16	
Labor and supplies, gypsy and brown-tail moth work,		39,371 73	
General supplies,		3,816 02	
Water rates,		286 21	
Telephones,		255 68	
Lighting offices,		209 64	
Stationery and printing,		96 04	
Heater,		95 00	
Express and freight,		90 15	
Moving buildings,		85 00	
Repairs,		62 22	
Plans for garage,		35 00	
<i>Amounts carried forward,</i>	\$73,879 85	\$118,796 34	\$390,922 72

<i>Amounts brought forward,</i>		\$73,879 85	\$118,796 34	\$390,922 72
Awnings,		32 00		
Analysis of disinfectant,		7 14		
			73,918 99	
Middlesex Fells Reservation: —				
Labor,	\$20,128 54			
Teaming,	1,045 00			
Keep of horses,	2,184 91			
Horses, carriages, automobiles, etc.,	1,239 58			
		\$24,598 03		
Labor and supplies, gypsy and brown-tail moth work,	25,136 76			
Street watering or its equivalent,	3,999 47			
General supplies,	2,025 41			
Street lighting,	1,415 30			
Shelters,	382 34			
Lighting offices,	327 06			
Shrubs,	274 00			
Telephones,	254 87			
Part payment, road roller,	190 00			
Stationery and printing,	163 26			
Traveling,	128 81			
Express and freight,	109 53			
Desks,	75 15			
Repairs,	69 22			
Trees,	49 40			
Water rates,	33 32			
Expenses on account of bond sales,	20 36			
Analysis of disinfectant,	3 58			
Lunches, men at brush-fire,	3 24			
Miscellaneous,	21 20			
			59,280 31	
Revere Beach Reservation: —				
Labor,	\$15,769 90			
Keep of horses,	218 40			
Horses, carriages, automobiles, etc.,	1,115 28			
		\$17,103 58		
Street lighting,	5,720 34			
Street watering or its equivalent,	2,313 42			
General supplies,	1,809 09			
Granolithic sidewalks,	1,431 43			
Water rates,	433 42			
Telephones,	418 02			
Lighting offices,	400 06			
Canvas covers for shelters,	222 00			
Fountains,	188 00			
Stationery and printing,	149 25			
Express and freight,	89 96			
Traveling,	81 05			
Repairs,	56 90			
Analysis of coal,	45 78			
Expenses on account of bond sales,	20 36			
Analysis of disinfectant,	17 85			
Boiler inspection,	12 00			
Sealing weights and measures,	2 58			
Testing hose,	75			
			30,515 84	
Stony Brook Reservation: —				
Labor,	\$2,541 67			
Keep of horses,	466 52			
Horses, carriages, etc.,	968 05			
		\$3,976 24		
<i>Amounts carried forward,</i>		\$3,976 24	\$282,511 48	\$390,922 72

<i>Amounts brought forward,</i>		\$3,976 24	\$282,511 48	\$390,922 72
Labor and supplies, gypsy and brown-tail moth work,	4,498 88			
Street watering or its equivalent,	1,087 98			
Express and freight,	107 62			
General supplies,	94 23			
Telephones,	45 07			
Repairs,	14 32			
			9,824 34	
Beaver Brook Reservation: —				
Labor,	\$2,326 96			
Teaming,	35 25			
Keep of horses,	233 49			
Horses, carriages, etc.,	86 65			
		\$2,682 35		
Labor and supplies, gypsy and brown-tail moth work,	739 53			
General supplies,	255 52			
Repairs,	81 57			
Gravel,	70 00			
Telephones,	46 65			
Water rates,	37 15			
Stationery and printing,	20 26			
Traveling,	7 10			
Appraising buildings,	5 00			
Use of sewer,	4 50			
Analysis of disinfectant,	3 58			
Express,	35			
			3,953 56	
Charles River, Upper Division: —				
Labor,	\$14,138 90			
Teaming,	3,567 25			
Keep of horses,	1,297 03			
Horses, carriages, automobiles, etc.,	1,739 83			
		\$20,743 01		
Labor and supplies, gypsy and brown-tail moth work,	7,805 58			
General supplies,	3,925 05			
Street lighting,	2,790 74			
Street watering or its equivalent,	2,116 29			
Lighting offices,	381 88			
Telephones,	300 91			
Loam,	200 00			
Traveling,	119 19			
Repairs,	115 47			
Stationery and printing,	102 35			
Water rates,	60 57			
Express,	53 92			
Emergency room supplies,	32 91			
Life preservers,	32 40			
Piazza screens,	24 00			
Directory,	6 00			
Physician's services,	5 00			
Analysis of disinfectant,	3 57			
Ice,	3 00			
Testing scales,	1 30			
Testing hose,	1 00			
			38,824 14	
Neponset River Reservation: —				
Labor,	\$558 62			
Teaming,	336 00			
		\$894 62		
Labor and supplies, gypsy and brown-tail moth work,	2,198 31			
General supplies,	61 92			
<i>Amounts carried forward,</i>		\$3,154 85	\$335,113 52	\$390,922 72

<i>Amounts brought forward,</i>		\$3,154 85	\$335,113 52	\$390,922 72
Telephones,		24 30		
Water rates,		6 00		
			3,185 15	
Mystic River Reservation:—				
Labor,	\$3,380 79			
Teaming,	1,221 25			
		\$4,602 04		
Loam,		375 25		
			4,977 29	
Lynn Shore Reservation:—				
Labor,		\$2,898 46		
Street lighting,		3,028 26		
Street watering or its equivalent,		1,313 36		
Iron pipe,		259 02		
Canvas covers for shelters,		222 00		
General supplies,		120 69		
Fountains,		70 00		
Repairs,		63 34		
			7,975 13	
Quincy Shore Reservation:—				
Labor,	\$4,211 65			
Teaming,	1,413 00			
		\$5,624 65		
Street watering or its equivalent,		2,616 17		
Street lighting,		1,524 14		
General supplies,		507 63		
Labor and supplies, gypsy and brown-tail moth work,		399 00		
Gravel,		70 60		
Lighting offices,		63 89		
Telephones,		43 30		
Water rates,		30 65		
Repairs,		4 05		
Express,		70		
			10,884 78	
Winthrop Shore Reservation:—				
Labor,	\$1,142 71			
Teaming,	7 00			
		\$1,149 71		
Street watering or its equivalent,		1,204 55		
Iron pipe,		643 73		
Street lighting,		615 96		
General supplies,		249 75		
Repairs,		72 89		
Boiler inspection,		15 00		
Water rates,		13 11		
			3,964 70	
				366,100 57
Balance,				\$24,822 15

BAND CONCERTS.

Appropriation,	\$25,000 00
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Expenditures.

Blue Hills Reservation:—			
Band,	\$1,367 86		
Lanterns,	43 00		
Expenses of extra police,	7 70		
		\$1,418 56	
<i>Amounts carried forward,</i>		\$1,418 56	\$25,000 00

Amounts brought forward, ... \$1,418 56 \$25,000 00

Middlesex Fells Division: —

Band,	\$2,715 60	
Expenses of extra police,	64 30	
Water coolers,	9 00	
Photographs,	8 00	
		2,796 90

Revere Beach Reservation: —

Band,	\$6,451 60	
Wiring for lights,	80 00	
Lighting band stand,	28 00	
Chairs,	25 00	
		6,584 60

Charles River, Upper Division: —

Band,	\$2,918 78	
Expenses of extra police,	93 20	
Ice,	1 20	
Lamps,	1 20	
		3,014 38

Charles River Lower Basin: —

Band,	\$1,347 50	
Lighting band stand,	68 00	
Taking down and setting up band stand,	63 25	
		1,478 75

Nahant Beach Parkway: —

Band,	\$1,465 80	
Expenses of extra police,	34 50	
Lighting band stand,	4 48	
		1,504 78

Nantasket Beach Reservation: —

Band,	\$6,204 60	
Express on music,	21 60	
		6,226 20
General expense,	\$20 44	
		20 44

23,044 61

Balance, ... \$1,955 39

SPECIAL APPROPRIATIONS.

Appropriation for storm repairs, ... \$59,000 00

Expenditures.

Revere Beach Reservation: —

Labor,	\$256 95	
Furnishing and driving oak piles,	352 00	
		\$608 95
Expended to Dec. 1, 1912,	58,239 10	
		58,848 05
Balance,		\$151 95

Appropriation for additional dredging in Mystic River, ... \$15,000 00

Expenditures.

Contract, Eastern Dredging Company,	\$1,780 65	
Excavating,	65 53	
		\$1,846 18
Expended to Dec. 1, 1912,	13,089 62	
		14,935 80
Balance,		\$64 20

Appropriation for Recreation Park, Waltham, ... \$1,000 00

Expenditures.

Pay rolls, ...	\$332 00	
Galvanized steel pipe, ...	184 58	
Steel swings, ...	146 46	
See-saw, ...	115 20	
C. S. Slide, ...	48 00	
Installing water pipe to fountain, ...	35 86	
Drinking fountain, ...	35 00	
Cement cloth, ...	22 20	
Advertising rules, ...	9 45	
Cement, ...	5 25	
		<u>934 00</u>
Balance, ...		<u>\$66 00</u>

Appropriation for Sachem Brook, Quincy, ... \$300 00

Expenditures.

Pay rolls, ...	\$300 00	
		<u>300 00</u>
Balance, ...		<u>-</u>

Appropriation for pensions, ... \$1,740 50

Expenditures.

Mateer pension, ...	\$300 00	
Powers pension, ...	400 00	
Haddock pension, ...	638 75	
Stewart pension, ...	323 81	
		<u>1,662 56</u>
Balance, ...		<u>\$77 94</u>

Expended, Geer allowance, ... \$210 00

Appropriation for investigation of Great Pond, Braintree, ... \$300 00

Expenditures.

Engineering: —		
Pay rolls, ...	\$75 85	
Expenses, ...	75	
		<u>76 60</u>
Balance, ...		<u>\$223 40</u>

Appropriation for mosquito extermination, Neponset River Reservation, . . . \$2,500 00

Expenditures.

Contract, United States Drainage and Irrigation Company, . . .	\$2,500 00	
		<u>2,500 00</u>
Balance, ...		<u>-</u>

Appropriation for investigation of sanitary condition of Charles River, . . . \$2,500 00

Expenditures.

Engineering, pay roll, ...	\$98 35	
Consulting engineer: —		
Services, ...	\$900 00	
Expenses, ...	42 80	
Copying records, ...	13 38	
Typing, ...	6 25	
		962 43
		1,060 78
Balance, ...		
		\$1,439 22
Appropriation for bulkhead and playground, Lynn, ...	\$10,000 00	
Expended, ...	—	
Balance, ...		
		\$10,000 00
Appropriation for bulkhead, Revere Beach, ...	\$2,600 00	
Expended, ...	—	
Balance, ...		
		\$2,600 00
Appropriation for investigation of cost of completing Lynn Fells Parkway, ...	\$500 00	

Expenditures.

Engineering: —		
Pay rolls, ...	\$15 20	
Expenses, ...	40	
		15 60
Balance, ...		
		\$484 40
Appropriation for rebuilding sea wall on Horgan estate, ...	\$7,500 00	

Expenditures.

Pay rolls, ...	\$72 05	
Advertising, ...	103 65	
		175 70
Balance, ...		
		\$7,324 30

METROPOLITAN PARKS BOULEVARD MAINTENANCE.

Appropriation, Dec. 1, 1912, to Dec. 1, 1913, ... \$208,911 62

Expenditures.

General expense: —		
Police: —		
Pay rolls, ...	\$38,177 88	
Miscellaneous, ...	6,031 01	
		\$44,208 89
Salaries: —		
Commissioners, ...	\$3,450 00	
General office, ...	8,937 23	
Engineering department, ...	6,215 73	
		18,602 96
Engineering supplies, ...	1,461 29	
Rent, lighting and care of offices, ...	3,116 32	
Amounts carried forward, ...	\$67,389 46	
		\$208,911 62

<i>Amounts brought forward,</i>		\$67,389 46		\$208,911 62
Telephones,		860 00		
Annual report, one-half,		514 10		
Stationery and printing,		488 81		
Postage, etc.,		312 25		
Traveling,		130 52		
Maps and books,		120 54		
Filing cabinets, cards, etc.,		116 27		
Electrical fixtures and supplies,		78 56		
Advertising,		72 60		
Automobile supplies,		42 92		
Typewriter supplies and repairs,		34 75		
Storing awnings,		22 30		
Spring water,		20 40		
Extra clerical assistance,		19 24		
Press clippings,		17 50		
Recording papers,		15 92		
Office repairs,		15 82		
Towel supply,		15 10		
Photographs,		14 50		
Soap,		11 50		
Ventilators,		8 00		
Office supplies,		7 15		
Justice of peace fees,		7 00		
Number plates,		6 00		
Wrapping paper,		4 41		
Automobile registration fees,		4 00		
Hamper,		4 00		
Rubber stamps,		2 40		
Newsboys' badges,		2 00		
Express,		1 80		
Testing hose,		1 50		
Taking off storm window,		1 20		
			\$70,362 52	
Blue Hills Parkway:—				
Labor,	\$3,201 50			
Teaming,	194 25			
Horses, carriages, etc.,	67 18			
		\$3,462 93		
Street watering or its equivalent,		3,063 19		
Street lighting,		2,160 00		
Labor and supplies, gypsy and brown-tail moth work,		499 13		
General supplies,		319 84		
Crushed stone,		263 46		
Water rates,		80 41		
Expenses on account of bond sales,		15 27		
Repairs,		13 34		
Lighting offices,		10 60		
			9,888 17	
Middlesex Fells Parkway:—				
Labor,	\$8,297 83			
Teaming,	2,691 38			
Keep of horses,	3 42			
Horses, carriages, automobiles, etc.,	245 97			
		\$11,238 60		
Street lighting,		7,951 43		
Street watering or its equivalent,		7,146 07		
Trees,		1,004 21		
Loam,		625 00		
<i>Amounts carried forward,</i>	\$27,965 31	\$80,250 69	\$208,911 62	

Amounts brought forward, ... \$27,965 31 \$80,250 69 \$208,911 62

Labor and supplies, gypsy and brown-tail moth work, ...	475 19
General supplies, ...	152 75
Dressing, ...	130 00
Telephones, ...	65 70
Repairs, ...	52 80
Water rates, ...	29 54
Freight, ...	28 00
Lighting offices, ...	10 15
Miscellaneous, ...	20 00

28,929 44

Mystic Valley Parkway:—

Labor, ...	\$11,485 42
Teaming, ...	2,018 25
Keep of horses, ...	34 50
Horses, carriages, automobiles, etc., ...	213 17
	\$13,751 34
Street lighting, ...	5,481 15
Street watering or its equivalent, ...	3,275 88
Labor and supplies, gypsy and brown-tail moth work, ...	989 22
General supplies, ...	614 21
Loam, ...	400 00
Power for sluice-gates, ...	250 00
Telephones, ...	164 30
Trees, ...	98 60
Water rates, ...	78 68
Operating stand, Cradock Bridge, ...	53 60
Repairs, ...	13 20

25,170 18

Revere Beach Parkway:—

Labor, ...	\$7,711 05
Teaming, ...	19 25
Keep of horses, ...	308 97
Horses, carriages, automobiles, etc., ...	735 58
	\$8,774 85
Street watering or its equivalent, ...	12,418 76
Street lighting, ...	6,120 40
Playground:—	
Pay rolls, ...	\$466 57
Pipe, ...	170 17
Swings, ...	124 32
See-saws, ...	115 20
X. A. slide and table, ...	100 00
Giant stride, ...	28 00
Lumber, ...	12 86
Work on iron fence, ...	10 80
Advertising rules, ...	9 00

1,036 92

General supplies, ...	908 99
Labor and supplies, gypsy and brown-tail moth work, ...	404 10
Power for draw, ...	349 65
Repairs, ...	52 80
Water rates, ...	43 57
Stationery and printing, ...	28 95
Installing water meter, ...	8 00
Express, ...	95

30,147 94

Amounts carried forward, ... \$164,498 25 \$208,911 62

Amounts brought forward, ... \$164,498 25 \$208,911 62

Neponset River Parkway: —

Labor, ...	\$744 00	
Labor and supplies, gypsy and brown-tail moth work, ...	191 25	
Watering or its equivalent, ...	146 00	
General supplies, ...	13 25	
		1,094 50

Nahant Beach Parkway: —

Labor, ...	\$4,063 06	
Keep of horses, ...	186 54	
Horses, carriages, etc., ...	3 25	
	\$4,252 85	
Street lighting, ...	896 37	
Street watering or its equivalent, ...	555 69	
General supplies, ...	250 65	
Repairs, ...	75 00	
Fountain, ...	35 00	
		6,065 56

Fresh Pond Parkway: —

Labor, ...	\$1,160 38	
Teaming, ...	66 00	
	\$1,226 38	
Street watering or its equivalent, ...	639 19	
Street lighting, ...	519 54	
Labor and supplies, gypsy and brown-tail moth work, ...	379 75	
General supplies, ...	125 84	
		2,890 70

Furnace Brook Parkway: —

Labor, ...	\$1,475 50	
Teaming, ...	5 25	
Horses, carriages, etc., ...	154 57	
	\$1,635 32	
Street lighting, ...	1,170 32	
Street watering or its equivalent, ...	849 10	
Labor and supplies, gypsy and brown-tail moth work, ...	794 25	
General supplies, ...	68 63	
Lighting offices, ...	14 37	
Water rates, ...	14 00	
Repairs, ...	5 41	
		4,551 40

Winthrop Parkway: —

Labor, ...	\$200 78	
Street lighting, ...	397 62	
		598 40

Lynnway: —

Labor, ...	\$3,868 93	
Horses, carriages, etc., ...	254 58	
	\$4,123 51	
Street lighting, ...	633 31	
Power for operating draw, ...	416 70	
General supplies, ...	120 76	
Street watering or its equivalent, ...	51 57	
		5,345 85

Lynn Fells Parkway: —

Labor, ...	\$1,399 63	
Teaming, ...	42 50	
Horses, carriages, etc., ...	55 80	
	\$1,497 93	

Amounts carried forward, ... \$1,497 93 \$185,044 66 \$208,911 62

<i>Amounts brought forward,</i>	\$1,497 93	\$185,044 66	\$208,911 62
Street lighting,	1,557 26		
Street watering or its equivalent,	1,406 43		
Trees,	88 55		
Labor and supplies, gypsy and brown-tail moth work,	29 88		
General supplies,	5 36		
Stationery and printing,	1 93		
		4,587 34	
<i>Alewife Brook Parkway:—</i>			
Labor,	\$7 50		
Teaming,	5 50		
		\$13 00	
Labor and supplies, gypsy and brown-tail moth work,	328 18		
		341 18	
<i>Middlesex Fells Roads:—</i>			
Labor,	\$4,078 09		
Teaming,	867 50		
Horses, carriages, etc.,	84 95		
		\$5,030 54	
General supplies,	2,147 22		
Crushed stone,	2,071 94		
Street lighting,	493 22		
Sand,	157 20		
		9,900 12	
			199,873 30
Balance,			\$9,038 32

CHARLES RIVER BASIN MAINTENANCE.

Maintenance of Park and Water Areas.

Appropriation, Dec. 1, 1912, to Dec. 1, 1913, ... \$73,568 21

Expenditures.

Labor,	\$21,164 63		
Teaming,	18 00		
Keep of horses,	855 44		
Horses, carriages, automobiles, etc.,	485 36		
		\$22,523 43	
<i>Police:—</i>			
Pay rolls,	\$32,457 92		
Miscellaneous,	3,564 55		
		36,022 47	
Street lighting,		4,672 89	
General supplies,		4,476 87	
Street watering or its equivalent,		1,066 84	
Lighting offices,		525 79	
Water rates,		465 43	
Repairs,		450 64	
Telephones,		266 09	
Canvas covers for shelters,		185 00	
Heating comfort station,		109 44	
Stationery and printing,		91 12	
Granolithic work for shelters,		90 00	
Electric fans,		64 85	
Rental of land,		60 00	
<i>Amounts carried forward,</i>		\$71,070 86	\$73,568 21

<i>Amounts brought forward,</i>	\$71,070 86	\$73,568 21
Expenses on account of bond sales,	35 00	
Flag pole fixtures,	30 00	
Clock,	20 00	
Bulbs,	19 50	
Express,	8 71	
Sand,	4 40	
Analysis of disinfectant,	3 57	
Traveling,	1 55	
Sealing scales,	1 20	
		71,194 79
Balance,		\$2,373 42

Maintenance and Operation of Locks, Gates and Drawbridges.

Appropriation, Dec. 1, 1912, to Dec. 1, 1913, ... \$44,067 00

Expenditures.

Labor, pay rolls,	\$30,473 67	
Repairs to machinery,	2,679 06	
General supplies,	2,130 50	
Breaking ice,	924 73	
Power for operation of locks, sluices and lights,	890 58	
Lighting lock-gate houses and sluices,	568 58	
Gas for heating,	342 16	
Water rates,	234 15	
Telephones,	178 05	
Analysis of coal,	36 00	
Laundry,	30 93	
Stationery and printing,	20 45	
Boiler inspection,	10 00	
Testing scales,	7 49	
Express,	7 27	
Analysis of disinfectant,	3 57	
Sealing weights and measures,	2 27	
Traveling,	1 40	
		38,540 86
Balance,		\$5,526 14

NANTASKET BEACH MAINTENANCE.

Appropriation, Dec. 1, 1912, to Dec. 1, 1913, ... \$32,187 03

Expenditures.

Police: —		
Pay rolls,	\$12,832 78	
Miscellaneous,	955 36	
		\$13,788 14
Labor,	\$8,946 57	
Teaming,	9 00	
Keep of horses,	585 64	
Horses, carriages, automobiles, etc.,	425 22	
		9,966 43
General supplies,	1,497 91	
Street watering or its equivalent,	1,123 92	
<i>Amounts carried forward,</i>	\$26,376 40	\$32,187 03

<i>Amounts brought forward,</i>	\$26,376 40	\$32,187 03
Lighting offices,	609 13	
Street lighting,	471 80	
Rent, superintendent's house,	420 00	
Water rates,	361 75	
Street sweeper,	235 00	
Gravel,	225 00	
Telephones,	162 31	
Repairs,	120 67	
Tar kettle,	96 54	
Stationery and printing,	81 39	
Traveling,	58 16	
Express,	45 19	
Shrubs,	34 57	
Consulting engineer,	16 30	
Physicians' services,	16 00	
Storing tubs,	12 00	
Analysis of disinfectant,	7 14	
Drain pipe rental,	6 00	
Appraising buildings,	5 00	
Photographs,	3 00	
Post-office box,	1 40	
Newspapers,	1 30	
Sealing weights and measures,	1 18	
		29,367 23
Balance,		\$2,819 80

WELLINGTON BRIDGE MAINTENANCE.

Appropriation, Dec. 1, 1912, to Dec. 1, 1913,	\$5,862 00
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Expenditures.

Labor,	\$3,312 85	
Teaming,	5 00	
		\$3,317 85
Street lighting,		1,086 50
General supplies,		366 44
Paving blocks,		69 00
Telephones,		50 20
Water rates,		9 48
		4,899 47
Balance,		\$962 53

METROPOLITAN PARKS EXPENSE FUND.

Receipts, Dec. 1, 1912, to Dec. 1, 1913.

Bath-houses: —

Revere Beach, sale of bath tickets,	\$39,176 60	
Nantasket Beach, sale of bath tickets,	14,260 05	
Nahant Beach, sale of bath tickets,	7,679 35	
		\$61,116 00

Rentals: —

Buildings,	\$12,135 20	
Roller-coaster and merry-go-round,	2,000 00	
Street railway locations,	1,938 73	
Houses,	1,279 00	
Ducts,	830 68	

<i>Amounts carried forward,</i>	\$18,183 61	\$61,116 00
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<i>Amounts brought forward,</i>	\$18,183 61	\$61,116 00
Land, ...	673 55	
Boat-house sites, ...	610 00	
Lunch stands and refectories, ...	485 12	
Boats, ...	461 11	
Photographic stands, ...	250 00	
Pastures, ...	175 00	
Bath-house sites, ...	120 00	
Automobile stands, ...	50 00	
Transit, ...	28 00	
		21,036 39
Sales: —		
Land, ...	\$12,037 80	
Wood, ...	1,128 00	
Buildings, ...	963 00	
Grass, ...	604 00	
Posts, ...	355 30	
Old metal, rubber, lumber, rags, etc., ...	333 00	
Second-hand automobile, ...	150 00	
Barrels, ...	65 76	
Buff and Berger level, ...	50 00	
Sanitary napkins, ...	47 18	
Old wagons, ...	40 00	
Old bathing suits, ...	33 42	
Mileage and railroad tickets, ...	9 82	
Plans, ...	8 20	
Miscellaneous, ...	6 49	
		15,831 97
Court fines, ...		5,421 50
Income from money invested, ...		3,244 30
Contributions to cost of laying granolithic sidewalk, ...		1,008 39
Settlements of claims for injury, ...		507 72
Contributions to cost of entrances, ...		230 00
Unredeemed bathing checks, ...		151 60
Refunds, ...		131 69
Credits for goods returned, ...		75 55
Reimbursements for services rendered, ...		44 00
Telephone tolls, ...		18 25
Burro privilege, ...		15 00
Newspaper licenses, ...		15 00
Horse's board, ...		14 25
Water rates, ...		14 00
		\$108,875 61
Balance, Dec. 1, 1912, ...		\$81,258 70
		\$190,134 31

Expenditures.

Police: —		
Pay rolls, ...	\$182 00	
Miscellaneous, ...	2 45	
		\$184 45
Garage (Nantasket), ...	863 57	
Horse, ...	365 00	
Repairs to buildings, ...	359 44	
Mattresses, dormitory, ...	268 00	
Repairs to police uniforms, ...	248 25	
Insurance premiums, ...	201 60	
Rent and care of armory and shooting gallery, ...	163 00	
		\$190,134 31
<i>Amounts carried forward,</i>	\$2,653 31	

<i>Amounts brought forward,</i>	\$2,653 31	\$190,134 31
Attorney's services, stock case,	150 00	
Police signal system,	150 00	
Emergency lectures for police,	116 15	
Services of drill master,	90 00	
Physicians' services,	17 00	
		\$3,176 46
Engineering: —		
Telephone tolls,	\$11 00	
		11 00
Blue Hills Reservation: —		
Laying pipe to summit of Blue Hill,	\$2,052 96	
Garage,	1,611 68	
Drinking fountain,	680 08	
Heater, sergeant's house,	410 00	
Laying pipe, Randolph Avenue,	72 40	
Repairs to buildings,	23 21	
		4,850 33
Middlesex Fells Reservation: —		
Rent, superintendent's house,	\$474 00	
Repairs to buildings,	294 05	
Screens,	34 12	
Raccoons,	16 00	
		818 17
Revere Beach Reservation: —		
Bath-house: —		
Pay rolls,	\$21,377 78	
Bathing suits,	4,499 63	
Coal,	1,517 70	
Lighting,	1,501 18	
Repairs,	901 04	
Towels,	824 17	
Engine room,	545 09	
Stockings,	395 73	
Medicines and attendance,	288 81	
Stationery,	244 76	
Soap,	230 79	
Paint,	199 00	
Bathing caps,	198 00	
Hardware,	195 25	
Water rates,	177 78	
Ice,	127 18	
Toilet paper,	105 00	
Flags,	60 00	
Laundry trucks,	52 50	
Lumber, etc.,	38 83	
Electric fans,	36 00	
Telephones,	35 90	
Uniforms,	32 55	
Brooms,	30 25	
Key bands,	28 00	
Brass snaps,	27 93	
Findings,	25 13	
Feather dusters,	22 95	
Disinfectant,	22 50	
Metal polish,	20 40	
Tickets,	20 00	
Corrugated matting,	16 20	
Brushes and combs,	15 60	
<i>Amounts carried forward,</i>	\$33,813 63	\$8,855 96 \$190,134 31

<i>Amounts brought forward,</i>	\$33,813 63	\$8,855 96	\$190,134 31
Screens,	15 25		
Premium on bond,	15 00		
Twine,	14 08		
Oil,	9 00		
Water-cooler,	9 00		
Rope,	8 79		
Postage,	8 20		
Spring water,	6 80		
Crash,	6 75		
Blanket,	6 15		
Tank,	6 00		
Express and freight,	5 91		
Stools,	5 75		
Mops,	5 25		
Oars and row-locks,	4 45		
Matches,	3 90		
Hose for extinguisher,	3 15		
Soap dipper,	2 00		
Wringer,	1 50		
Starch,	1 20		
Miscellaneous,	60		
		\$33,952 36	
Granolithic walks,	768 41		
O'Hara entrance,	20 00		
Refund to O'Hara,	6 00		
		34,746 77	
Stony Brook Reservation: —			
Water rates,	\$42 00		
Repairs to buildings,	17 62		
Freight,	5 02		
		64 64	
Charles River, Upper Division: —			
Repairs to buildings,	\$205 47		
Repairs to automobile,	151 32		
Boat-house,	95 63		
Refund on boat-house rental,	45 33		
Catch basin,	41 32		
Water rates,	40 00		
Lights, Anderson Bridge,	16 94		
		596 01	
Charles River, Lower Basin: —			
Engineering: —			
Pay rolls,	\$29 30		
Expenses,	20		
		\$29 50	
Regatta expenses: —			
Pay roll,	\$67 25		
Sanitaries,	117 42		
Photographs,	42 30		
		226 97	
Grading between Essex Street and Cambridge Street,			
Brighton,	1,302 38		
Surfacing, North Harvard Street to Western Avenue,	921 25		
Boats,	372 50		
Repairing granolithic walks,	248 92		
Surfacing, Charles River Road,	179 10		
Gasoline tank for boat-house,	177 21		
Drip roof, Harvard Bridge,	69 61		
Tents,	13 00		
		3,540 44	
<i>Amounts carried forward,</i>		\$47,803 82	\$190,134 31

<i>Amounts brought forward,</i>		\$47,803 82	\$190,134 31
Neponset River Reservation:—			
Playground,		\$678 50	
Mosquito extermination,		277 30	
			955 80
Quincy Shore Reservation:—			
Repayment of amount advanced for construction of entrance,		\$50 00	
			50 00
Blue Hills Parkway:—			
Draining pleasure side of Blue Hills Parkway,		\$1,998 25	
Granolithic walks,		206 41	
Refunds on amounts advanced for granolithic walks,		67 08	
			2,271 74
Middlesex Fells Parkway:—			
Grading McCarthy lot,		\$405 00	
Catch basin, St. Mary's Street,		112 39	
			517 39
Mystic Valley Parkway:—			
Repairs to buildings,		\$70 48	
Repayment of amount advanced for construction of entrance,		50 00	
Installing meter,		9 12	
Pipe,		4 20	
Advertising sale of building,		4 00	
Water rates,		2 67	
			140 47
Revere Beach Parkway:—			
Crushed stone,		\$73 95	
Chase's entrance,		73 89	
			147 84
Nahant Beach Parkway:—			
Bath-house:—			
Pay rolls,		\$4,261 50	
Water rates,		435 55	
Coal,		285 80	
Lighting,		244 90	
Telephones,		48 59	
Findings,		40 78	
Toilet paper,		26 25	
Cleaning cesspool,		20 00	
Laundry,		18 38	
Flag-staff fixtures,		12 50	
Ice,		9 75	
Oil,		9 00	
Damage to dress,		8 00	
Repairs,		4 90	
Dials,		4 43	
Tickets, etc.,		3 50	
Postage stamps,		3 00	
Medicines and attendance,		3 00	
Disinfectant,		2 15	
Freight,		50	
			5,442 48
Lynn Fells Parkway:—			
Painting bridge,		\$125 00	
			125 00
Nantasket Beach Reservation:—			
Bath-house:—			
Pay rolls,		\$7,163 15	
Engine room,		981 22	
Coal,		917 03	
<i>Amounts carried forward,</i>		\$9,061 40	\$57,454 54
			\$190,134 31

<i>Amounts brought forward,</i>	\$9,061 40	\$57,454 54	\$190,134 31
<i>Bath-house — Con.</i>			
Bathing suits, ...	716 00		
Water rates, ...	454 08		
Repairs, ...	354 35		
Towels, ...	215 63		
Stockings, ...	197 50		
Hardware, ...	119 62		
Lighting, ...	111 76		
Lumber, ...	108 52		
Stationery, ...	90 19		
Flags, ...	89 00		
Medicines and attendance, ...	86 84		
Paint, ...	83 40		
Laundry, ...	58 38		
Ice, ...	54 92		
Toilet paper, ...	52 50		
Hauling bathing suits, ...	50 00		
Bathing caps, ...	44 00		
Soap, ...	35 40		
Cleaning cesspools, ...	30 00		
Tickets, etc., ...	14 40		
Brooms, ...	11 15		
Findings, ...	9 87		
Bunting, ...	7 41		
Baskets, ...	7 00		
Dusters, ...	7 00		
Dustbane, ...	7 00		
Premium on bond, ...	6 00		
Uniform, manager, ...	5 25		
Employees' badges, ...	5 20		
Plate for fountain, ...	5 04		
Thermometers, ...	2 80		
Chair seats, ...	2 60		
Gold leaf, ...	2 10		
Dipper, ...	1 75		
Water glasses, ...	1 61		
Rubber stamp, ...	1 30		
Key blanks, ...	1 25		
Miscellaneous, ...	40		
	\$12,112 62		
Repairs and alterations in buildings, ...	8,393 23		
Automobile, ...	549 00		
Engineer's services, ...	451 25		
Settlement of claims for damages, ...	300 00		
Report on steam apportionment, ...	35 00		
	21,841 10		
		79,295 64	
Balance, ...		\$110,838 67	

LARZ ANDERSON BRIDGE FUND.

Amount of fund, ... \$200,000 00

Expenditures.

Construction: —

Contract, Holbrook, Cabot & Rollins Corporation, ... \$137,050 84

Engineering: —

Pay rolls, ... \$5,711 45

Expenses, ... 518 03

6,229 48

Amounts carried forward, ... \$143,280 32 \$200,000 00

Balance, Dec. 1, 1913,	\$1,164 32
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SUMMARY OF GENERAL EXPENSE FOR YEAR ENDING NOV. 30, 1913.

		Parks System Maintenance.	Parks Boule- vard Maintenance.	Parks Ex- pense Fund.	Parks Loan Fund.	Parks Loan Fund, Series II.	Total.
Commissioners,	.	\$3,450 00	\$3,450 00	-	-	-	\$6,900 00
Office salaries,	.	8,270 00	8,937 23	-	-	-	17,207 23
Engineering,	.	7,364 00	7,677 02	\$11 00	-	-	15,052 02
Police,	.	93,065 54	44,208 89	3,176 46	-	-	140,450 89
Rent, Boston office,	.	2,781 27	2,875 02	-	-	-	5,656 29
Lighting and care, Boston office,	.	255 12	241 30	-	-	-	496 42
Miscellaneous,	.	3,610 41	2,973 06	-	-	-	6,583 47
		\$118,796 34	\$70,362 52	\$3,187 46	-	-	\$192,346 32

SUMMARY OF EXPENDITURES FOR YEAR ENDING NOV. 30, 1913.

	Metropoli- tan Parks Loan Fund.	Metropoli- tan Parks Loan Fund, Series II.	Metropoli- tan Parks System Main- tenance.	Metropoli- tan Parks Boulevard Main- tenance.	Metropoli- tan Parks Expense Fund.	Special Ap- propriations, Repairs, Construc- tion and Investiga- tions.	Band Concerts.	Totals.
Reservations: —								
Blue Hills, ...	—	—	\$73,918 99	—	\$4,850 33	—	\$1,418 56	\$80,187 88
Beaver Brook, ...	—	—	3,953 56	—	—	—	—	3,953 56
Charles River, Upper Division, ...	\$1,020 07	—	38,824 14	—	596 01	{ \$934 00 1,060 78 }	3,014 38	45,449 38
Lynn Shore, ...	—	—	7,975 13	—	—	—	—	7,975 13
Middlesex Fells, ...	—	—	59,280 31	—	818 17	—	2,796 90	62,895 38
Mystic River, ...	—	—	4,977 29	—	—	1,846 18	—	6,823 47
Neponset River, ...	11 00	—	3,185 15	—	955 80	2,500 00 ¹	—	6,651 95
Quincy Shore, ...	—	—	10,884 78	—	50 00	300 00	—	11,234 78
Revere Beach, ...	—	—	30,515 84	—	34,746 77	608 95	6,584 60	72,456 16
Stony Brook, ...	—	—	9,824 34	—	64 64	—	—	9,888 98
Winthrop Shore, ...	—	—	3,964 70	—	—	—	—	3,964 70
General expense, ...	—	—	118,796 34	—	—	{ 76 60 ² 1,662 56 ³ 210 00 ⁴ }	20 44	120,765 94
Totals, ...	\$1,031 07	—	\$366,100 57	—	\$42,081 72	\$9,199 07	\$13,834 88	\$432,247 31

¹ Mosquito extermination, Neponset River Reservation.² Great Pond investigation, Braintree.³ Pensions.⁴ Geer allowance.

SUMMARY OF EXPENDITURES FOR YEAR ENDING NOV. 30, 1913 — *Concluded.*

	Metropoli- tan Parks Loan Fund.	Metropoli- tan Parks Loan Fund, Series II.	Metropoli- tan Parks System Main- tenance.	Metropoli- tan Parks Boulevard Main- tenance.	Metropoli- tan Parks Expense Fund.	Special Ap- propriations, Repairs, Construc- tion and Investiga- tions.	Band Concerts.	Totals.
Parkways: —								
Alewite Brook, ...	\$9 44	\$5,161 13	—	\$341 18	—	—	—	\$5,511 75
Blue Hills, ...	—	—	—	9,888 17	\$2,271 74	—	—	12,159 91
Dedham, ...	—	4,805 66	—	—	—	—	—	4,805 66
Fresh Pond, ...	—	37 55	—	2,890 70	—	—	—	2,928 25
Furnace Brook, ...	—	—	—	4,551 40	—	—	—	4,551 40
Hammond Pond, ...	—	118 40	—	—	—	—	—	118 40
Lynn Fells, ...	—	—	—	4,557 34	125 00	\$15 60	—	4,727 94
Lynnway, ...	—	—	—	5,345 85	—	—	—	5,345 85
Middlesex Fells, ...	—	172 60	—	28,929 44	517 39	—	—	29,619 43
Middlesex Fells Roads, ...	—	—	—	9,900 12	—	—	—	9,900 12
Mystic Valley, ...	—	541 37	—	25,170 18	140 47	—	—	25,852 02
Nahant Beach, ...	—	—	—	6,065 56	5,442 48	—	\$1,504 78	13,012 82
Neponset River, ...	—	—	—	1,094 50	—	—	—	1,094 50
Old Colony, ...	—	2,223 08	—	—	—	—	—	2,223 08
Revere Beach, ...	—	—	—	30,147 94	147 84	—	—	30,295 78

Winthrop, ...	-	236 55	-	598 40	-	-	-	834 95
Woburn, ...	-	2,750 55	-	-	-	-	-	2,750 55
General expenses, ...	-	-	-	70,362 52	3,187 46	-	-	73,549 98
Totals, ...	\$9 44	\$16,046 89	-	\$199,873 30	\$11,832 38	\$15 60	\$1,504 78	\$229,282 39
Nantasket Beach Reservation, ...	-	-	-	-	\$21,841 10	\$29,367 23 ¹	\$6,226 20	\$57,434 53
Wellington Bridge, ...	-	-	-	-	-	4,899 47 ¹	-	4,899 47
Charles River Basin, ...	-	-	-	-	3,540 44	{ 21,865 26 ² 109,740 90 ¹ 175 70 }	1,478 75	136,301 05
Larz Anderson Bridge Fund, ...	-	-	-	-	-	143,459 52	-	143,459 52
Grand totals, ...	\$1,040 51	\$16,046 89	\$366,100 57	\$199,873 30	\$79,295 64	\$318,722 75	\$23,044 61	\$1,004,124 27

¹ Maintenance.² Loan.

APPENDIX.

APPENDIX 1.

REPORT OF THE METROPOLITAN PARK COMMISSION ON THE COST OF COMPLETING LYNN FELLS PARKWAY FROM BELLE- VUE AVENUE AND GREEN STREET, IN THE CITY OF MEL- ROSE, TO THE LYNN WOODS.

To the Honorable Senate and House of Representatives.

The Metropolitan Park Commission submits herewith a special report as to the cost of completing the Lynn Fells Parkway from Bellevue Avenue and Green Street, in the city of Melrose, to the Lynn Woods, as required by chapter 87 of the Resolves of 1913.

The resolve, chapter 87 of the Resolves of 1913, under which this report is made, is as follows:—

CHAPTER 87.

RESOLVE TO PROVIDE FOR A REPORT BY THE METROPOLITAN PARK COMMISSION AS TO THE COST OF COMPLETING THE LYNN FELLS PARKWAY FROM BELLEVUE AVENUE AND GREEN STREET IN THE CITY OF MELROSE TO THE LYNN WOODS.

Resolved, That the metropolitan park commission be directed to estimate the cost of acquiring land for and constructing an extension of Lynn Fells parkway from Bellevue avenue and Green street in the city of Melrose to the Lynn woods. Said commission shall submit its estimates together with its recommendations in relation to the said extension to the next general court not later than the second Saturday in January; and in carrying out the provisions of this resolve, the commission may expend a sum not exceeding five hundred dollars, one half of this amount to be paid out of the current revenue, and the other half to be assessed upon the metropolitan parks district as authorized by chapter four hundred and nineteen of the acts of the year eighteen hundred and ninety-nine. [*Approved May 13, 1913.*]

Lynn Fells Parkway is the name of an existing, fully constructed parkway of the Metropolitan Park System, extend-

ing from Middlesex Fells of that system to Bellevue Avenue and Green Street in the city of Melrose. The land was acquired and the parkway constructed under an appropriation made for that purpose after a special report by the Metropolitan Park Commission, which was directed to report by chapter 501 of the Acts of 1898 upon the general subject of a parkway from Middlesex Fells to Lynn Woods. Although only part of the entire parkway suggested by the report under that act has been built, it was as large a part of the route then suggested as was provided for by the appropriation, and is complete in itself as an entrance parkway from Melrose, and from Main Street in Melrose, a highway which has been known as the Reading Turnpike, and as such is still one of the principal radial highways north from Boston to the northerly towns of the Metropolitan Parks District. The parkway was extended a short distance beyond Main Street to Bellevue Avenue and Green Street, because that extension provided better connections with existing streets of the city of Melrose leading easterly to highways in Saugus and Wakefield. For the entire distance that it has been constructed it runs according to the lines suggested in the report under the act of 1898 for a parkway for the entire distance from Middlesex Fells Parkway to Lynn Woods, and is therefore fully available as part of what was then reported to be the most desirable line of parkway connection between Middlesex Fells and Lynn Woods.

Middlesex Fells is one of the great woods reservations of the Metropolitan Parks System, and its roads connect with a large part of the northerly portion of the Metropolitan Parks District and with Metropolitan Parkways leading to the rest of the District. Lynn Woods is a reservation belonging to the city of Lynn, and is held as a park and water preserve for the ponds and reservoirs of that city. Lynn is one of the largest and most important cities of the District, and its highways and the State highways connect with the great shore reservations of the Metropolitan Park System at Swampscott, Lynn, Nahant and Revere.

The estimate required in this report is that of extending the existing Lynn Fells Parkway to a connection with Lynn

Woods, and for that purpose of acquiring the land and of constructing the parkway. For such parkway a route substantially the same as suggested in the previous report of 1898 is now deemed the best that can be adopted, and such modifications only have been made as seem to be required by changes in occupancy and in use of the lands between Bellevue Avenue and Green Street and Lynn Woods. These changes seem to make it advisable to acquire a somewhat narrower strip of land than was first suggested, and to terminate the acquirements and construction at the Walden Pond entrance road to Lynn Woods, while preserving as before all the advantages of directness of route and connection with all existing main roads, including Newburyport Turnpike, and opportunity for connecting roads and park acquirements in the future for preservation and protection of the low lands along Saugus Meadows and Saugus River, and Pranker's Pond in Saugus.

The cost of the land required for the route as now estimated is not expected to exceed \$50,000, and it is hoped that in view of the benefit which would result to adjoining lands, which are now rather difficult of approach from the centers of population, that the cost of actual acquirement might be somewhat less. The distance estimated upon is somewhat more than 3 miles.

The cost of constructing a parkway of a width deemed ample for the necessities of the present time and of many years to come, in a form which will accommodate building other divisions on adjoining lands suitable for such uses, and permit a greater width of roadway to be constructed whenever future necessities require, without further cost for land and at slight additional cost for construction, is estimated to be \$110,000, a total of \$160,000 for both land and construction. The form of construction recommended and estimated upon is that of a complete sidewalk and planted space upon the outer edge of the parkway taking abutting on a roadway with a park-like area intervening between the roadway and the other side of the acquirement, where for most of the distance the lands are not likely to be used for houses or other buildings requiring street frontage. For the dis-

tance where completed parkway with house frontage on both sides is likely to be required, the lands and construction would be that of a parkway with sidewalk and planted space on both sides.

The appropriation made for this investigation and report was \$500. The amount expended has been \$218.02.

All of which is respectfully submitted,

WILLIAM B. DE LAS CASAS,
EDWIN U. CURTIS,
DAVID N. SKILLINGS,
ELLERTON P. WHITNEY,
EVERETT C. BENTON,

Metropolitan Park Commission.

JAN. 10, 1914.

APPENDIX 2.

REPORT OF THE SPOT POND BROOK IMPROVEMENT COMMISSION, UNDER CHAPTER 100 OF THE RESOLVES OF 1913.

The commission created under chapter 100 of the Resolves of 1913 to investigate and report upon the improvement of Spot Pond Brook, in Stoneham, Melrose and Malden, report as follows:—

The resolve under which this commission was created, and in pursuance of which this report is made, is as follows:—

CHAPTER 100.

RESOLVE TO PROVIDE FOR AN INVESTIGATION AND A REPORT ON THE IMPROVEMENT OF SPOT POND BROOK IN STONEHAM, MELROSE AND MALDEN.

Resolved, That the chairman of the metropolitan water and sewerage board, the chairman of the metropolitan park commission, the chairman of the county commissioners of the county of Middlesex, the mayor of the city of Malden and the mayor of the city of Melrose are hereby constituted a commission, to be known as the Spot Pond Brook Improvement Commission. The said commission shall investigate the condition of Spot Pond Brook in Stoneham, Melrose and Malden and report to the general court, before the tenth day of January, nineteen hundred and fourteen, a plan for the most economical means of preventing flooding along the course of said brook, together with such suggestions and recommendations relative to the improvement of the brook and the drainage of the territory through which it flows as the commission may deem advisable. [*Approved May 29, 1913.*]

The commissioners designated by the resolve organized by the choice of the chairman of the Metropolitan Water and Sewerage Board as their chairman. The resolve carried no appropriation for the services of expert advisers, and the commission, as thus constituted, has been obliged to conduct its investigations without such advisers.

The subject-matter of the condition of Spot Pond Brook, and of the protection of the cities and towns and property to which its condition and capacity is a matter of public and private concern, has long been one of great importance. The commissioners have carefully investigated all these matters, and have personally examined the territory immediately affected and have given careful consideration to suggested methods of making improvement in them, and of providing for the care of Spot Pond Brook, with a view to meeting present and future necessities by preventing flooding and improving the brook, so as to provide for adequate drainage of the territory through which it flows in the most economical manner. In so doing they have been greatly assisted by the investigation and report made by the county commissioners of Middlesex County as incident to a decree of March, 1871; by other information in the possession of the cities of Melrose and Malden; and by valuable reports in regard to the matter made by the Metropolitan Water and Sewerage Board under chapter 112 of the Resolves of the General Court of the year 1902 and chapter 105 of the Resolves of the year 1903; and by the intimate personal knowledge of members of the Board of the brook and its adjacent territory for many years; and by personal examination of the territory made during the past year. Yet even with this assistance they have been obliged to reach the conclusion that without expert assistants directly responsible to themselves, they cannot express a satisfactory conclusion as to a plan for dealing with the principal problems involved which shall be both adequate and so adjusted to the necessities of the communities as to be the most economical. It seems advisable to state certain facts relating to this brook and its treatment in years passed, and in regard to the territory affected by it, which warrant this conclusion.

Spot Pond Brook drains a watershed reaching back through Stoneham to the confines of Wakefield, and flowing through Melrose and Malden to the tidal waters of Malden River. This watershed was sparsely settled prior to 1870, and the brook and the ponds into which it expanded, or which were tributary to it, were made use of at only a few points by

manufacturing establishments or for ice-cutting. Nevertheless, its condition was a matter of some concern, and by chapter 378 of the Acts of 1869 the county commissioners of Middlesex County were authorized to investigate and act in regard to it, which they did by decree of March 28, 1871, under which they made a taking and lay-out of a portion of the brook within Melrose and Malden, and ordered certain improvements and its maintenance thereafter by the towns of Melrose and Malden within their respective limits. Prior to this the towns of Melrose, Medford and Malden were authorized by special act of May 4, 1867, incorporating the Spot Pond Water Company, to take water from Spot Pond for water supply, and proceeded to do so and thereafter to use Spot Pond as a source of water supply for their respective cities under the establishment of the Metropolitan Water Board, which then took over the pond and made it a reservoir of the North Metropolitan System.

The effect of the use of Spot Pond by the cities was to diminish gradually and almost completely shut out the flow of water from the pond and the watershed above into Spot Pond Brook. In consequence, lands adjacent to the brook below Spot Pond were drained and so rarely overflowed that they came to be used to a considerable extent for farming and even to be occupied by dwellings and business buildings. This continued for many years and the changed condition of the brook came to be regarded as its normal condition. The adaptation of Spot Pond to a reservoir of the Metropolitan Water System made an abrupt and radical change in this condition of things, as it was accomplished by the exclusion of the water from the natural watershed of Spot Pond into a series of small ponds, including Doleful Pond, from which the water was conducted by artificially covered drains around or under Spot Pond and discharged into Spot Pond Brook below Spot Pond and above the portion laid out by the county commissioners as a drain adequate for the then existing conditions. This abrupt change suddenly restored the flow from the entire watershed to the brook in a manner entirely unexpected and unforeseen by the public, and, whatever may have been the legal rights in regard to it, resulted

in flooding lands at certain seasons of the year which for many years had been so dry that the public had come to regard them as naturally so and fit for occupancy.

Since this change was made there has arisen an insistent demand that the water now discharged into the brook be cared for in some other way, or that the brook be so enlarged that there would be no overflowing of its banks.

The matter of legal rights and of municipal and other obligations is a complex one, and seems to be unnecessary to discuss except so far as it affects the cost of any method of relief and proper apportionment which may be proposed. The purpose of the reference to this Board appears to be the hope of saving the communities from entering upon an attempt to settle all these matters by litigation and its attendant expense and perhaps unsatisfactory results. The purpose of the reference appears to your Board to be rather the very practical one of attempting to secure a suggestion of a method of providing relief which shall be within the ability of the community to undertake.

As already stated, various methods have been suggested from time to time, of which that suggested by the special report of the Metropolitan Water and Sewerage Board appears to be most far-reaching and based upon such expert study of the brook from source to mouth, and of its entire watershed, as to command the greatest respect. This report and the method of solution suggested by it would naturally have been adopted if it were not for the great expense estimated by that Board as likely to be involved, which has seemed to the municipalities interested as one which might be charged to them, and if so charged, would be a financial burden which they deemed beyond their ability to undertake.

Under these circumstances this Board feels that the municipalities likely to be contributing parties to the expense by any method of apportioning it which may be adopted, will be opponents to the adoption of such a method as that suggested by the report of the Metropolitan Water and Sewerage Board, unless a large part of the expense is assumed by the Commonwealth in the feeling that it was an incidental expense to the establishment of Spot Pond as a

reservoir in place of its being a storage basin of the brook, and that even if the Commonwealth should assume such substantial part, the remaining portion of the expense would be one which the municipalities would be unwilling to undertake unless convinced by further and more critical examination of the situation, and of the method suggested for its relief, that a more economical method than that suggested by the report of the Metropolitan Water and Sewerage Board cannot be devised.

Your commissioners are unable, without the assistance of expert advisers, to make such critical examination of the situation, and of the reports thus far made, or to make suggestions as to any other methods than those suggested which should be equally far-reaching, without authority to employ expert advisers, and they believe that any other board without such authority would find itself in the same position. We therefore suggest, as above stated, that we are unable at this time to make more complete report, and that if the Legislature desires more complete report it will be necessary to provide that the present commissioners, or some other body to which the question be referred, be authorized to continue the investigation, and for that purpose be authorized to employ experts, and to make surveys and plans, and report in writing, and for these purposes to incur expense not exceeding in the aggregate \$5,000, it being understood that no compensation to the members of the Board be authorized, and that none has been received by the present commissioners.

All of which is respectfully submitted.

LEVI S. GOULD,
WILLIAM B. DE LAS CASAS,
CHARLES SCHUMAKER,
OLIVER B. MUNROE,

Commissioners.

NOTE. — The chairman of the commission, Hon. Henry H. Sprague, has been prevented by illness from joining in this report. In his absence Hon. Levi S. Gould has acted as chairman.

APPENDIX 3.

REPORT OF JOINT COMMITTEE ON A PARKWAY OR HIGHWAY
FROM OR NEAR HARVARD BRIDGE, IN THE CITY OF CAM-
BRIDGE, TO MIDDLESEX FELS PARKWAY IN SOMERVILLE.

The joint committee requested by the Legislature to sit together as a joint committee for the purpose of considering the subject stated in an order of the Legislature of April 4, 1913, for a parkway or highway from or near Harvard Bridge, in the city of Cambridge, to Middlesex Fells Parkway, in the city of Somerville, beg to report, as follows:—

At the first meeting, all members designated in the order being present, the committee organized by the choice of the mayor of Boston, Hon. John F. Fitzgerald, as chairman, and the mayor of Cambridge, Hon. J. Edward Barry, as secretary. Prior to the second meeting the mayor of Boston was obliged, by a previous engagement, to go to Panama and be absent until after May 10, the time set for this report. He therefore asked to be represented at the meetings by the corporation counsel of Boston, Judge Corbett, and by unanimous consent the request was granted, and the same privilege extended to the mayors of Cambridge and Somerville.

By request of Judge Corbett a statement, in typewriting, of the views of the mayor of Boston at the time he went away, is appended to this report, without either approval or disapproval by the committee. The committee, however, feels justified in saying that they believe that, if present, his honor the mayor of Boston would have joined in the report as made. After full consideration of the matter by the joint committee, constituted as here stated, the following report and suggestion of a bill to be enacted were adopted as the report of the committee.

The order under which the report is made is as follows:—

THE COMMONWEALTH OF MASSACHUSETTS,
SENATE, April 4, 1913.

Ordered, That the members of the Metropolitan Park Commission and the mayors of the cities of Boston, Cambridge and Somerville, respectively, be hereby requested to sit together as a joint committee for the purpose of considering whether public convenience and necessity require at the present time the taking of the necessary steps for the ultimate construction of a parkway or highway, or a combination of both, from a point at or near Harvard Bridge, so called, in the city of Cambridge, through said cities of Cambridge and Somerville, to a junction with Middlesex Fells Parkway in said city of Somerville; and that they be further requested to report thereon to the General Court on or before the tenth day of May, nineteen hundred and thirteen.

Sent down for concurrence.

HENRY D. COOLIDGE,
Clerk.

HOUSE OF REPRESENTATIVES, April 7, 1913.

Adopted, in concurrence.

JAMES W. KIMBALL, *Clerk.*

A true copy. Attest:

(Signed)

HENRY D. COOLIDGE,
Clerk of the Senate.

Approximately two-thirds of the population of Massachusetts live east of a line crossing the State north and south, through the western boundary of the Metropolitan Parks District. Nearly one-half of the population of the State live within the Metropolitan Parks District.

The Metropolitan Parks District and the eastern part of the State is divided by Charles River.

Nearly one-half of the population of the Metropolitan District, and nearly one-half that of the eastern half of the State also, live north of Charles River, while a little more than half of each, including all of Boston except East Boston and Charlestown, live south of Charles River. The population of the portion of the State north of Charles River has increased since 1800 from approximately 90,000 to 345,000 in 1860, and approximately 1,000,000 at the present time. The rate of increase south of Charles River has been at approximately the same rate. The population of the District alone has increased from 674,000 in 1880 to about 1,500,000 at the present time. The population of Boston has increased from 24,000 in 1800 to

177,000 in 1860, and 670,000 in 1910, or 570,000 without Charlestown and East Boston, or 140,000 within the old city.

Accompanying this great increase in population there has come a great change in the life and business habits of the eastern half of the State. Before 1800 farming and fishing were the chief occupations of its population. Gradually, manufacturing has become predominant, and with the change Boston has become the business, social and intellectual center. Its consequent business and institutional growth has been largely parallel to Charles River as far as the parkways on its westerly border.

To provide for all this increase of population and change in its business, social and institutional life, the only substantial increase in highway accommodation made in the lower part of the city within the memory of those now living has been by the extension of Washington Street from Cornhill to Charlestown Bridge, and the only new highway and bridge across Charles River for entrance into and passing through the city has been the Harvard Bridge and Massachusetts Avenue, the usefulness of which, however, is seriously limited by the crossing of the Grand Junction Railroad just beyond the bridge, and by the merging of Massachusetts Avenue almost immediately in Main Street, Cambridge, which makes it merely a roadway to the west through Cambridge.

Prior to 1870, when Wellington Bridge was built over Mystic River, nearly all travel from the north and northeast entered Boston by the Charlestown bridges, and for a long time after the building of Wellington Bridge most of the travel continued the same way. The Cambridge bridges were difficult to reach. There resulted a great congestion of the Boston streets, and consequent inconvenience of travel. Harvard Bridge was built about 1888, but was of little convenience to the cities and towns north of Mystic River because it was quite as difficult of approach as the other Cambridge bridges.

Since the Metropolitan Parkways were authorized in 1894, a system of parkways with incidental highways has been planned, and a part has been built, leading from the northeast and west to Wellington Bridge, to unite with the highways leading to that bridge and other important highways at

Broadway Park, Somerville, a little further south. These have resulted in a large amount of travel being directed to Broadway Park, only 2 miles from Harvard Bridge, which, taken in connection with the yearly increasing difficulty of passing through the lower part of Boston, has resulted in directing a largely increased amount of travel toward Harvard Bridge, in spite of the inconvenience and unfitness for such travel of the streets between Broadway Park and Harvard Bridge. There has resulted a very great increase of travel on Cambridge streets, with consequent wear and tear of those streets, which will be still more increased as the remaining portions of the northerly system of parkways are built, and as an increasing amount of travel seeking to go beyond Boston is forced to avoid the increasing difficulty of passing through its downtown streets.

On the south side of Charles River the Fenway of the Boston Park System leads, by Arnold Arboretum, to the lands of the West Roxbury Parkway of the Metropolitan Park System, which is to provide parkway connection with all the south section of the District and State, and, by the Arborway, Franklin Park and Blue Hill Avenue, of the Boston Park System, with Mattapan Bridge and Blue Hills Parkway of the Metropolitan System to the south, and, by Columbia Road, of the Boston System, with the Old Colony Parkway of the Metropolitan System, for which provision has been made to give parkway connection with the southeastern part of the District and State. All these parkways lead directly to Charles River in Boston and Harvard Bridge. Between these and the Metropolitan Parkways to the north intervenes the barrier made by the tangle of Cambridge and Somerville streets as they now exist. Under present conditions the only relief which may be provided will be by the drives along Charles River to Fresh Pond Parkway and those along Alewife Brook and Mystic River, when completed, and the road distance to Middlesex Fells and Revere Beach Parkways and nearby highways by these driveways will be from 8 to 10 miles longer than by a direct parkway from Harvard Bridge to the same points.

It is beyond the power of any one city or town to materially improve the existing situation.

These circumstances have created the necessity for an adequate highway between the neighborhood of Wellington Bridge and Harvard Bridge, which has rapidly manifested itself. In 1899 the Metropolitan Park Commission was required to report upon the advisability of providing for a road or boulevard between these points. Its report stated in brief that such a connection was very much needed to provide for pleasure travel, business traffic and electric car transportation, and would be a very great convenience to the public and would greatly relieve Boston and Cambridge streets, because it would cross every parkway and highway and electric car line leading from Boston to the north and northwest, and connect with Massachusetts Avenue, by which most of the streets, parkways and electric car lines leading out of Boston could be reached without first passing through the crowded downtown section of Boston. The distance from Mystic River to Charles River by such a highway would be about 2 miles, whereas the distance between the same points by other bridges into Boston would be from 4 to 5 miles, chiefly through crowded business streets which could not be widened except at very great cost.

Subsequent to this report the Legislature authorized the beginning of such a highway, but the bill was vetoed, as it was understood, to postpone the addition to the Metropolitan Park expenditures. Again an almost successful effort was made in 1903 to compel the use for this public way of appropriations for other projects provided in that year.

In 1909 the Metropolitan Improvements Commission, in its report, recommended this roadway as absolutely necessary for a relief of bad roadway conditions in present means of entering and leaving Boston. In 1911 the Joint Board on Metropolitan Improvements, consisting of the Railroad, Transit, Harbor and Land, and Park Commissions, reported unanimously to the same effect.

Clearly, then, there is public necessity for an ample and continuous new roadway from the parkways of the Boston and Metropolitan Park Systems south of Charles River and the highways of Boston which converge at Harvard Bridge to the Metropolitan Parkways and the highways which converge at Broadway Park in Somerville, and this necessity has been re-

peatedly recognized and provision has been repeatedly urged and endorsed. It is the practical necessity of providing for a boulevard-highway for all classes of travel to serve all parts of the District south as well as north of Charles River, and all the eastern part of the State, rather than a mere parkway or pleasure way of any kind. The necessity exists in an aggravating degree at the present time, and until provided for will become more and more aggravatingly apparent, and more and more difficult to provide for.

The great expense already incurred for parks and other metropolitan and municipal improvements naturally causes the query, however, as it has ever since the necessity first became apparent: Why not wait awhile; what advantage will there be in entering upon this expense now rather than in future years?

To this query the first answer is that even under normal conditions delay, in a region so near the center of population, is likely to increase the cost unduly; and the second answer is even more convincing, if good judgment is to prevail, that in this particular instance the existing conditions are such that delay will increase the cost abnormally, and will more than ordinarily retard a satisfactory civic development of the neighborhood.

Impending developments in the now open lands near Harvard Bridge make it advisable that a plan for this boulevard-highway be immediately determined upon. The Massachusetts Institute of Technology is about to complete its plans for a set of new buildings, which are to be beautiful and not only a notable development of the river front in themselves but likely to cause very marked changes in the entire neighborhood. This is a matter of greatest civic interest, and it is fair to this splendid public institution, which brings so much renown to the District, and the Commonwealth, that the location and grades of not only this proposed boulevard-highway but of other highways in the neighborhood, and nearby railroad and street railway tracks, be adjusted for permanent development of the entire neighborhood. Even beyond the location of these proposed new buildings the interposition of a single building in the now comparatively open path of the suggested highway may increase its cost beyond the interest charges upon the

present value of the necessary lands for a period of twenty years.

By common consent of all the experts who have investigated the matter, it is advisable that the suggested boulevard-highway should include Harvard Bridge and Massachusetts Avenue, or, preferably, if the present grade crossing of Massachusetts Avenue is to be abolished, make use of that crossing if possible, or at least have the grade of the permanent crossing determined.

It is therefore clear that the present opportunity for securing the result best for all, with due regard for economy and the financial interest of all, requires the coming together of the cities, the institute and the railroad and railway companies as parties in interest, and the determination of plans fair and useful and economical for all. If such result is to be secured, it is necessary that some public body have immediate power and authority in the matter, as the conference and work necessary to secure the desired result will take much time and patient effort.

Your committee believe that in the laying out and construction of the suggested boulevard-highway the following results ought to be accomplished:—

It should provide for all highway uses, that is, for general teaming, electric cars and pleasure travel. Its grades should be light enough for all these uses, as the reports made in previous years by the Metropolitan Park Landscape Architect and engineering experts have shown that they may be. The location should be such as will unite and facilitate as nearly as may be all radial highways and electric car lines from which travel now seeks, and is likely to seek, an approach to Boston by Harvard Bridge, or to which travel from Boston and beyond seeks, or is likely to seek, such connection over Harvard Bridge. It should be designed with reference to an increased use of Harvard Bridge and its ultimate rebuilding as part of the development of Charles River Basin as the great central water park of the Metropolitan District, and for a connection with the Fenway, by which pleasure travel may be directed from the highways into the park roads. It should be designed primarily as a great public way, but incidentally with such careful consideration of matters of alignment, directness, convenience of connections and incidental parkway attractive-

ness, and especially with reference to enhancing the convenience and beauty of the new Institute of Technology buildings and grounds and of Charles River Basin and the parks along the river, as may be secured without material increase of cost. Especially, it should be designed with reference to a reasonable and economical abolishment of existing grade crossings of the Grand Junction Railroad, and to an economical use of existing bridges over the railroads in Somerville.

As a means of accomplishing these results most conveniently and economically, your committee suggests that authority be given to the Metropolitan Park Commission to proceed under the parkway acts, with an appropriation sufficient to provide for making detailed plans and securing the necessary lands and for the construction incidentally necessary; and as the briefest way of stating this they submit herewith a bill, and recommend its passage. The bill recommended is as follows:—

AN ACT TO AUTHORIZE THE METROPOLITAN PARK COMMISSION TO ACQUIRE, CONSTRUCT AND MAINTAIN A PARKWAY AND TRAFFIC ROAD CONNECTION FROM A POINT AT OR NEAR HARVARD BRIDGE, SO CALLED, IN THE CITY OF BOSTON, THROUGH THE CITIES OF CAMBRIDGE AND SOMERVILLE, TO A JUNCTION WITH MIDDLESEX FELS PARKWAY IN SAID CITY OF SOMERVILLE.

Be it enacted, etc., as follows:

SECTION 1. The metropolitan park commission is hereby authorized to acquire, in fee or otherwise, lands and rights in lands for, and to construct and maintain, a parkway and traffic road connection extending from a point at or near Harvard bridge, so called, in the city of Boston, through the cities of Cambridge and Somerville to a junction with Middlesex Fells parkway in said city of Somerville, and shall take, reconstruct and maintain Harvard bridge as a part of such parkway and traffic road. Said connection may be made, if said commission shall deem advisable, by the taking, adaptation and improvement of existing streets and parkways along the route selected by said commission. For the purposes set forth in this act said commission may exercise all the powers conferred upon it by chapter four hundred and seven of the acts of the year eighteen hundred and ninety-three, chapter two hundred and eighty-eight of the acts of the year eighteen hundred and ninety-four, and all other acts in addition thereto or in amendment thereof, and may expend the sum of four million dollars.

SECTION 2. To meet the expenditures made under authority of this act, the treasurer and receiver general, with the approval of the governor and council, shall issue scrip or certificates of indebtedness, bearing

interest at a rate not exceeding four per cent per annum, to the said amount of four million dollars, as an addition to the Metropolitan Parks Loan, Series Two, at such times and in such sums as the said commission shall certify to him to be necessary to meet the liabilities incurred by said commission under this act, and shall add to the existing sinking fund to provide for the payment of the same. Such scrip or certificates of indebtedness shall be issued and additions to said sinking fund shall be assessed and collected in accordance with the provisions of sections eight, ten and eleven of said chapter two hundred and eighty-eight, and in accordance with the provisions of chapter two hundred and eighty-three of the acts of the year eighteen hundred and ninety-five and of chapter four hundred and nineteen of the acts of the year eighteen hundred and ninety-nine.

SECTION 3. This act shall take effect upon its passage.

The statement of the Mayor of Boston is subjoined as an appendix.

All of which is respectfully submitted.

J. EDWARD BARRY,

Mayor of Cambridge.

CHARLES A. BURNS,

Mayor of Somerville.

WILLIAM B. DE LAS CASAS,

EDWIN U. CURTIS,

DAVID N. SKILLINGS,

ELLERTON P. WHITNEY,

EVERETT C. BENTON,

Metropolitan Park Commission.

MAY 10, 1913.

APPENDIX.

STATEMENT OF THE MAYOR OF BOSTON. CAMBRIDGE-SOMERVILLE BOULEVARD-HIGHWAY.

In accordance with the request contained in the order of the Senate, I have sat as one of a joint committee consisting of the members of the Metropolitan Park Commission and the mayors of the cities of Cambridge and Somerville, and have considered whether public convenience and necessity require at the present time the taking of the necessary steps for the ultimate construction of a parkway or highway or a combination of both from a point at or near Harvard Bridge, so called, in the city of Cambridge through said cities of Cambridge and Somerville to a junction with Middlesex Fells Parkway in the city of Somerville, and herewith report my opinion: —

The public improvement contemplated by the terms of the order is one of vast and vital importance. I am not prepared to say that public convenience and necessity require the taking of steps for the construction of such a highway or parkway at the present time and I realize that the cost of such construction would be enormous.

Although in a broad sense it is a State-wide improvement, it is also essentially a link in the system of metropolitan parks and, if built, the work should be done by the Metropolitan Park Commission.

The construction of such a boulevard-highway, however, in no event should be undertaken unless the point of beginning is extended to make an actual connection with the Charles River Embankment on the Boston side and to include Harvard Bridge. The reconstruction of Harvard Bridge will be a necessary result of the construction of any such boulevard on account of the consequent increase in travel and traffic whether the point of beginning is at Harvard Bridge in the city of Cambridge or at the bridge in the city of Boston.

The Charles River Basin, which is construed to mean the embankment and the highways and parkways surrounding it, has been placed in the exclusive care and control of the Metropolitan

Park Commission. The development and improvement of the Charles River Basin is complementary to this general scheme of a boulevard-highway connecting the park systems on the south with those on the north. As indicated in the reports of special commissions and the joint board on metropolitan improvements, a picturesque and attractive island could be provided for in the middle of the basin upon the site of the present Harvard Bridge and would tend to lessen the expense of reconstructing and maintaining the bridge as a part of its present length would become a causeway across the island.

In addition to this consideration there is an opportunity to further reduce the cost of the scheme by selling the portion of the land in the interior to institutions or associations engaged in activities along social and educational lines, and by using only the shores of the island for park and recreation purposes.

It is to be further borne in mind that the cost of the public improvement as above indicated should be reduced by requiring a street railway company seeking a location upon the boulevard-highway to do so in accordance with the provisions of the statutes under which the Metropolitan Park Commission determines the terms and compensation upon which such a location is to be granted. The cost of the improvement called for by the reconstruction of Harvard Bridge should be reduced by providing for a commission to determine the amount to be paid by the Boston Elevated Railway Company, to be appointed upon the application of the Metropolitan Park Commission in a manner similar to that provided for in the statute relating to the construction and maintenance of the new West Boston Bridge.



